parishes! Each Agent is thus responsible for a large district, usually six or seven parishes, or counties as you know them! It is well indicated that these men possess more than ordinary knowledge of the aforementioned attributes of a successful Agent. These men have sought responsibility, and displayed the ability to function without close supervision, relying instead on their own abilities.

Here is a case in point, and it happened to me not long ago. As we all know, there are many boaters whose feeling for the water is fear, when it should be respect. The safe boatman is the man who takes the necessary precautions before embarking. It's the overconfident boat operator who neglects these safety procedures and invites injury for

himself and others.

Now in the aforementioned case, while I was working on one of our Louisiana lakes, I noticed a man and his wife were about to embark in a small boat with only one life preserver. I prevailed upon the pair to secure another one from the man at the wharf who rented such gear along with his boats. A short time later the small craft was rammed and sank in 12 feet of water. The wife, who couldn't swim a lick, had on her life preserver, rented for 25 cents, and was fished out of the lake by other boatmen. Now if this had happened before the small boat law they probably would have told me to "go fly a kite" and been at the bottom of the lake as a result. This just shows what good public relations and the confidence in the lawman will do.

If we are to retain in our Great American Heritage the fruits of our fields, streams and forests in number sufficient to enjoy their bounty, we must change and adapt our enforcement techniques as public attitude changes and we enter an era of game management designed to meet an expanding population and shrinking frontiers. Since World War II the number of hunters afield has multiplied six times over! This increase must be met with a program of enforcement designed to revolve around a well-informed, better-equipped, more capable Game Agent.

I know that it is your intention to be among those Agents who are not found lacking in abilities. You and I are responsible for a part in a multimillion dollar annual enterprise! Let's be sure we maintain our status in the coming years.

EVIDENCE IN WILDLIFE LAW ENFORCEMENT

By Elliott Lott, Area Supervisor Florida Game and Fresh Water Fish Commission

Much has been written about evidence. Little has been written about evidence in wildlife law enforcement.

On the cover of the citation book of every Florida Wildlife Officer are printed the words, "Remember, one good case is better than several poor ones." I feel that these are words of wisdom.

If we agree that a good court case is better than a poor one, then we have admitted that there is a difference between the two. There is a difference, and this difference is usually nothing more or less than evidence.

It is, therefore, certain that evidence is a most important matter in the field of wildlife law enforcement and a subject worthy of our consideration.

The question might be asked, "Just what is evidence?" Webster defines the word evidence as "a means of ascertaining the truth." Since that seems to be a pretty good definition, we will conclude that evidence is closely related to truth. When we have begun to think of evidence and truth together, we have taken a step in the right direction.

It is the will and determination of our courts to render unto every man his due. In order to accomplish this our courts must safeguard the innocent while punishing the guilty, and this can be done only through the presumption that all men are innocent until proven guilty.

The purpose of a trial by jury is to search for and establish the truth. Only by this process are our courts able to preserve justice.

With these thoughts in mind, it is reasonable to conclude that evidence, truth and justice are like the links of a chain that must not be permitted to break.

From the seed of evidence grows the blossom of truth, and from the blossom of truth comes the fruit of justice.

As professional wildlife law enforcement men, we are dedicated to the proposition of better and more effective enforcement of our fish and game laws. The value of our effort is measured largely by evidence, and the capable officer constantly seeks to broaden his knowledge and understanding of what he must know to attain that goal.

In order to intelligently deal with evidence, we must know what it is and how to find it. When we have found it, we must know what to do with it.

Evidence in fish and game law violations is either direct or circumstantial. We sometimes find it difficult to readily distinguish between the two, especially in the field where time may be a factor and a decision often has to be quickly made. Whether or not an officer chooses to make an arrest frequently depends upon his ability to quickly size up a situation and, from the evidence at hand, decide the course he will follow.

A most reliable method of quickly identifying either direct or circumstantial evidence is by simply keeping in mind a clear definition of each. each.

Direct evidence is that which, if it is believed by a jury, will conclusively establish a fact.

Circumstantial evidence is that which, even if believed by a jury, will not conclusively establish a fact.

Evidence, regardless of the form in which it occurs, may be either direct or circumstantial and this depends completely upon the facts that surround it. The carcass of a deer or an illegal net, in one instance, may be direct evidence while, under different conditions, either could be circumstantial evidence. Evidence is judged solely on the basis of what it will establish in court and never by the form in which it is found.

To illustrate this point, we will assume that one of our officers hears a shot and, shortly afterward, finds Joe Blow near a freshly killed deer with a recently fired shotgun in his hands. On the ground is a freshly fired shotgun shell that the officer feels sure can be matched to the shotgun and tied to Joe Blow through the testimony of a ballistics expert. On the basis of this evidence, the officer decides that he had better arrest old Joe and charge him with killing the deer. Later, in court, the circumstances under which Joe Blow was found are testified to by the officer. The carcass of the deer establishes the fact that a violation occurred, and the shotgun is evidence that Joe Blow was in possession of a shotgun when the deer was killed. The shotgun shell and expert testimony show that the shell was fired from the gun of Joe Blow.

Is this an "air tight" case? The answer is NO in every respect. Not one particle of evidence can be introduced to conclusively establish that the deer was killed by Joe Blow. The entire case is based on purely circumstantial evidence and, although the jury may decide to render a guilty verdict, it is not likely that a conviction would occur.

On the other hand, if this officer had seen, as well as heard, Joe Blow shoot the deer, it would have changed matters considerably. Every item of evidence would have been direct, and it is most likely that a conviction would result.

If you find yourself in doubt as to whether or not there is sufficient evidence to justify an arrest, stop and weigh that evidence for a moment or two. Remember Joe Blow and satisfy yourself that the evidence will conclusively prove that the offense was committed by the person or persons you will accuse.

Many states have permitted *prima facie* evidence to be used in the enforcement of wildlife law. Evidence of this type, at first view or first appearance, tends to prove the commission of the offense unless the accused can suitably explain away the facts. In Florida, for example, the possession of a gun and light together at night is not a violation of the law. It is, however, *prima facie* evidence of taking or attempting to take wildlife by means of a gun and light together which is a violation of the law.

Oral testimony is probably the most frequently used type of evidence in wildlife law enforcement. By this means we can relate, under oath, facts that we know of our own personal knowledge, relate to some issue in the case to be tried. When presenting this type of evidence, we are subject to examination and cross-examination by the court.

Tangible evidence is that which, supported by oral testimony, may be shown to the court to establish the commission of an offense. Evidence of this sort usually consists of firearms, fishing devices, game birds, fish,

game animals, etc.

Documentary evidence may be a confession, a letter, a rule book, a birth certificate, a photograph or other form of written or printed matter,

and is also supported by oral testimony.

A hard and fast rule that should always be borne in mind in regard to evidence is that no evidence will be admitted in court unless it is, in some manner, relevant to an issue in the case to be tried. An example of this rule would be the exclusion of any evidence of the previous conviction of a defendant on trial for a subsequent violation.

All evidence is, therefore, either admissible or inadmissible when put

to test in a court of law.

In general, evidence obtained by any law enforcement officer through the use of one or more of his senses is admissible. These senses are, of course, our sight, hearing, smell, taste and touch.

Oral testimony will be admitted if it meets the requirement of being relevant, and tangible, as well as documentary, evidence will be admitted

if properly authenticated by oral testimony.

Evidence obtained by illegal search is admissible but is usually sup-

pressed by the court upon motion by the defense.

Hearsay evidence will be excluded on the grounds that it might not be fact despite the truthfulness of the person giving it.

Opinion testimony is not admissible since it is presumed that the

jury is capable of forming its own opinion.

Involuntary confessions, obtained by duress or promise of leniency, will not be admitted since a person accused of a crime may not be compelled to testify against himself. Neither will a wife or husband be

compelled to testify against each other.

Leading questions by a friendly attorney on direct examination will be prohibited and answers to such questions will be excluded. If a testifying officer were asked, "Did you see Joe Blow shoot a deer on the date in question?", it would be a leading question because it suggests its own answer. This question could be properly framed by asking, "What were the circumstances under which you came in contact with Joe Blow on the date in question?"

Mentally incompetent persons will not be permitted to testify in court except when they possess sufficient mental capacity to understand the

nature of the oath.

Expert testimony is frequently used as evidence in court and will be admitted only when the person giving such testimony has been qualified before the court as an expert on the matter to which he will testify. A registered land surveyor would be qualified to give expert testimony in regard to the exact geographical location of an arrest. The officer who made the arrest would not be unless he were also a land surveyor. Our game and fish biologists are often called on for expert testimony in regard to wildlife, and we law enforcement officers are usually accepted as experts in our field.

Our courts sometimes take judicial notice of evidence by admitting it without authentication, after which its validity will not be challenged. Such evidence usually is commonly known and generally accepted fact such as testimony that there are seven days in a week, or that an hour

consists of sixty minutes.

The experienced officer knows that the element of intent must be present to some extent in any violation of the law, and he knows that the element of intent must always be shown in some degree before an offense can be proven. He knows that nothing strengthens a court case more than evidence of intent to commit the offense. This intent is often referred to as "premeditation."

In the collection of evidence, some officers are more proficient than others simply because they are willing to apply extra time and effort to

make a good case. The capable officer never takes anything for granted

and he assumes nothing in regard to evidence.

The scene of a violation will often furnish additional evidence if an officer is interested enough to keep looking. In arrests that occur at night it is very easy to overlook evidence that can be found in daylight, and a close inspection will sometimes reveal evidence of an additional violation.

Much can be accomplished through scientific law enforcement aids, and there is a great opportunity for their use in the field of wildlife law enforcement. Ballistics, fingerprint and tool mark identification, plaster cast identification, chemi-analysis and photograph are all aids that are available to us, and with which we should be familiar.

Much can be said in regard to the preparation of evidence, but too much cannot be said in regard to its importance. A written account, complete in every detail, should be made of the case as soon as possible after the arrest is made. Small but significant details have a habit of disappearing from our minds with the passage of time, and we might eventually find ourselves wondering just what it was that Joe Blow said. It requires only a few minutes to jot down facts that require months to get.

Evidence must be properly identified and carefully preserved, for

the chain of possession must be established in court.

In the identification of evidence, nothing is more satisfactory than your initials or mark written or scratched directly on the item to be taken to court. Every single item, such as the rifle cartridges that a carton might contain, should be marked individually. Items of evidence should, when possible, be kept in your continuous possession to eliminate

unnecessary argument in court.

When we have properly identified evidence, it is necessary to preserve it. In wildlife law enforcement, much of our evidence consists of perishable matter, such as game or fish, that must be kept under refrigeration. These items should be wrapped or otherwise protected against dehydration. Guns, ammunition, fishing devices and other such material should be protected against moisture and rust as well as accidental damage. Plastic bags, which are available in many sizes, are a very good means of storing evidence, and the evidence they contain can be clearly seen. Neatly packaged and well-cared-for evidence presents a good appearance in court.

A polaroid camera is an excellent means of preserving evidence that cannot be taken to court, since photographs are evidence that may be admitted. Photographs made by polaroid camera are not difficult to authenticate in court since you are both the photographer and developer,

and the chain of evidence can easily be shown.

The manner in which an officer handles his evidence in the courtroom is of considerable importance, especially with regard to firearms. Every precaution should be taken to make sure that the gun is free of ammunition, and a gun should always be taken into the courtroom with the bolt drawn or the barrel broken to show that it is not dangerous. When handling a firearm during a trial keep the muzzle up or down and never toward anyone. This is only sensible, and you can be sure that any wrong move you make will be noted by the jury.

When called upon to display evidence to the jury, take your time and hold the evidence so that it may plainly be seen. Make sure that each member of the jury has ample opportunity to satisfy his curiosity.

The testimony that you give from the witness stand is extremely important as it supports your other evidence. The manner in which you present your testimony has a profound effect upon its net worth. The officer who cannot sit still in the witness chair and who looks at the floor or the ceiling instead of the jury is not a good witness because he gives the appearance of being afraid he will tell the truth. A jury is always on the alert for any sign of animosity on the part of an officer toward the defendant or his attorney, and the officer who displays a persecution complex in the courtroom should have his head examined. The competent officer is never provoked into losing his temper, especially in the courtroom, and he commands respect through his personal dignity.

The wildlife law enforcement officer who knows his evidence and knows what to do with it is a credit to himself and to his profession.

As a parting thought on the value of evidence, I am reminded of a

story that might have a point:

An old Indian, named Joe Blow, received an appointment with the president of the local bank and requested a loan until he could fatten his hogs for market.

The banker agreed to the loan but informed the old Indian that he

would have to put up his hogs as evidence of good faith.

The old Indian later sold his hogs and promptly repaid the banker. Noticing that the old Indian had several hundred dollars left in his pocket after repaying the loan, the banker said, "Joe, why don't you leave all that money here and let me take care of it for you?"

Indian Joe replied, "How much evidence you got?"

Thank you.

ENGINEERING

REFERENCE MATERIAL AVAILABLE FOR HYDOLOGY, HYDRAULIC, AND STRUCTURAL DESIGN OF WATER CONTROL STRUCTURES

By Don Hays, Director, Division of Engineering Department of Fish & Wildlife Resources, Kentucky

A number of good reference books are available to the hydraulic-design engineer; many more, in fact, than the ones listed. However, I recommend the following for the simple reason that the Soil Conservation Service has done as much or more research in the hydraulic-hydrology field as any one agency. Their manuals are constantly being revised as new methods are developed from research. The S.C.S. has been quite willing to help engineering personnel from other agencies in the use of their material. Frequent training classes are held in which new principles of design are advanced and are generally open to those requesting special permission to attend.

Publications by the U.S. Department of Agriculture, Soil Conserva-

tion Service.

1. Hydrology—Supplement A

Contains five parts, starting with general requirements through to the development and analysis of design hydrographs. Engineer-ing memorandums, from the Washington office of the S.C.S., out-line the limiting criteria for the design of earth dams and are to be used in conjunction with this guide.

2. "Chute Spillways" Section 14.

3. "Hydraulics" Section 5.

- 4. "Structural Design" Section 6.
- 5. "Drainage" Section 16.
- 6. "Drop Spillways" Section 11.

(All these sections are designed to fit into the S.C.S. Engineers Handbook.)

Publications by the U.S. Department of Agriculture, Agricultural Research Service.

Written by Fred Blaisdell and Charles A. Donnelly at the St. Anthony Falls Hydraulic Laboratory, University of Minnesota Agricultural Experiment Station.

1. "Hydraulics of Closed Conduit Spillways Part I. Theory and Its Application" gives results of tests and formulae to determine flow in a conduit under any condition of head or length.