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MEASURING DOVE HARVEST BY HUNTING FIELD TYPES

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The 1960 inclusion of "normal agricultural plantings" in the permitted hunting methods of the Migratory Bird Hunting Regulations caused some concern to Fish & Wildlife Service personnel located in Atlanta. As a result, it was decided that an effort would be made to measure the amount of hunting success and the volume of hunting performed over normal plantings. In addition, an effort was made to measure also the volume and degree of hunting success over several other kinds of commonly hunted fields.

In late summer, a form was hastily devised, printed and distributed to Game Management Agents in the Southeastern States. They, in turn, were requested to enlist all the help they could of State enforcement personnel in their districts. In addition, L. E. Foote, Wildlife Management Institute, provided members of the Southeastern Technical Dove Committee with a few forms and requested their assistance.

In spite of the late start in getting the project under way, and the lack of adequate time to properly brief all people helping in the matter, personnel of eight State Game Departments contributed information in varying amounts. Maryland, North Carolina, South Carolina and Kentucky printed additional forms and obtained excellent coverage of their dove hunting activities. These States reported 86% of all hunters checked by personnel of all participating States, and 58% of the 20,864 hunters checked by combined Federal and State personnel.

Attached to this report are Tables I and II and a Kill Data Chart showing the results of the pilot study made in 1960. These are included here to indicate the type of information which, when accurately gathered and properly interpreted, can be of great value when considering regulations as they relate to control of the dove harvest through anti-baiting rules.

In the 1960 figures, two major biases are recognized. First, a judgment sample, rather than one of random nature, caused some error in results obtained. We hasten to add, however, that perhaps the judgment error isn't as great as some would think, since a large proportion of the dove shoots checked by officers were located by a general patrol of dove hunting areas. When doing so, officers drive two or three miles, stop the car and listen. If shooting is heard, they then go to it, using the sound of the guns as a guide.

The other major bias is due to enforcement officers gathering the major part of the information. They naturally looked for fields over which doves were being shot illegally. As a result, there is a tendency toward reporting a higher illegal kill than actually might have occurred.

Other biases undoubtedly enter, but in spite of this, we think much of the information is valid and useful. Statistical analysis of gun/hour success by various field types has not been made; however, we believe the figures given for field types from which adequate samples were taken reflect generally the degree of hunting success obtained. Also, the average number of hunters hunting in the various field categories should be reasonably accurate. Further, the degree of hunting success, as shown for the various types of fields shot over, should fairly reflect the attractiveness of the various kinds of fields described. Exceptions to all of these may, of course, be found in states in which samples were too small to be accurate.

At any rate, you will note that the 20,864 hunters who were contacted harvested 108,329 doves. The average kill over all types of fields in the region was 1.73 doves per gun/hour, and based on checks made before the hunt was completed, the average hunter hunted 3 hours. Thus, hunters had taken an average of 5.2 doves each at the time they were checked. Here we need, of course, the number of birds taken on an average *completed* hunt.

There was undoubtedly some misinterpretation of the categories listed on field forms with the result that a few individual officers listed shoots under field headings which did not accurately describe the area. An example is recalled: In this case, the officer reported several "Feed lot" hunts but did not make any cases. Since shooting over feed lots is illegal and the officer was presumably out looking for violations, we may assume he checked several shoots in which hunters were hunting over "Hogged Off" fields. In spite of the few instances where a misunderstanding was the cause of inaccurate information, it stands to reason the more easily understood categories such as "Normal Harvest," "Bait" and "Normal Plantings" were used properly and the resulting information valid.

In any event, the main purpose of the 1960 effort was to attempt measurement of the importance of "Normal Plantings" and to use the experience gained for refining and correcting future procedures for evaluation of regulations pertaining to dove hunting.

The results of the 1960 effort, plus the shortcomings encountered, have been reported to the Southeastern Dove Committee and to the Southeastern Association of Game and Fish Commissioners at their business meeting in Atlanta this spring and summer. Continuation of the project, with corrections designed to eliminate some of the mistakes made in 1960, was endorsed by both groups.

From the experience gained last year, forms have been revised which will more clearly describe the various fields over which doves are shot and simplified comprehensive instructions have been included on the back of each field form. Also, a standardized summary sheet has been prepared for individual State tabulations of the data. In addition, with enough time to plan and implement the project, arrangements have been made to obtain full cooperation of State enforcement officers and biologists and meetings arranged for discussion and explanation of the project with all participants.

Special arrangements with State biologists call for them to gather information which can be used to correct the bias caused by enforcement men seeking out illegal hunts. They will also check *completed* hunts to determine the average hours hunted by the individual.

There are opposing views as to the merits and value of this project. Some researchers voice doubt as to the usefulness of the data because of the judgment sample approach and other inherent biases. Others contend that inherent biases must be recognized and considered in interpreting the data. Nearly all recognize the need for good information relative to the effect of regulations on the harvest and the welfare of the birds. Certainly, if we are to continue efforts to regulate the harvest and equalize hunting opportunity through the application of anti-baiting rules, we must know more about the results obtained.

If the 1961-62 dove hunting season is a good one, (and we believe it will be), and if all pitch in and work on this project, it's a good bet that more than 250,000 harvested doves will be examined and the information included in the 1962 report. On the basis of an estimated kill of 8-million doves in the Southeast, this will be a sample of 3%.

If then, allowances are made for the biases inherent in the survey, the resulting information should contribute a great deal to our knowledge concerning the effects of this regulation on the kill of our most important southern game bird.

TABLE I.
DOVE KILL
TOTAL DATA FOR REGION 4
FALL OF 1960

<i>Field Category</i>	<i>No. of Shoots</i>	<i>No. of Hunters</i>	<i>Hours Hunted</i>	<i>Doves Bagged</i>	<i>Per Cent of Total Kill Examined</i>	<i>Kill Per Gun Hour</i>
Normal Planting	299	3,423	11,647	17,212	16%	1.48
Normal Harvest	1,289	12,461	37,388	67,472	62%	1.80
Hogged or Grazed Crops	229	1,840	5,337	10,396	10%	1.95
Manipulated Crops	29	293	1,004	1,619	1%	1.52
Feed Lots	25	184	599	638	trace	1.07
Baited Fields	51	382	814	1,647	2%	2.02
Other (See Note)	399	2,281	5,891	9,345	9%	1.59
Totals	2,321	20,864	62,680	108,329	100%	1.73

Average Hunters Per Shoot : 9
 Average Hours Hunted Per Hunter : 3
 (When checked)
 Average Doves Killed Per Hunter : 5.2
 (When checked)

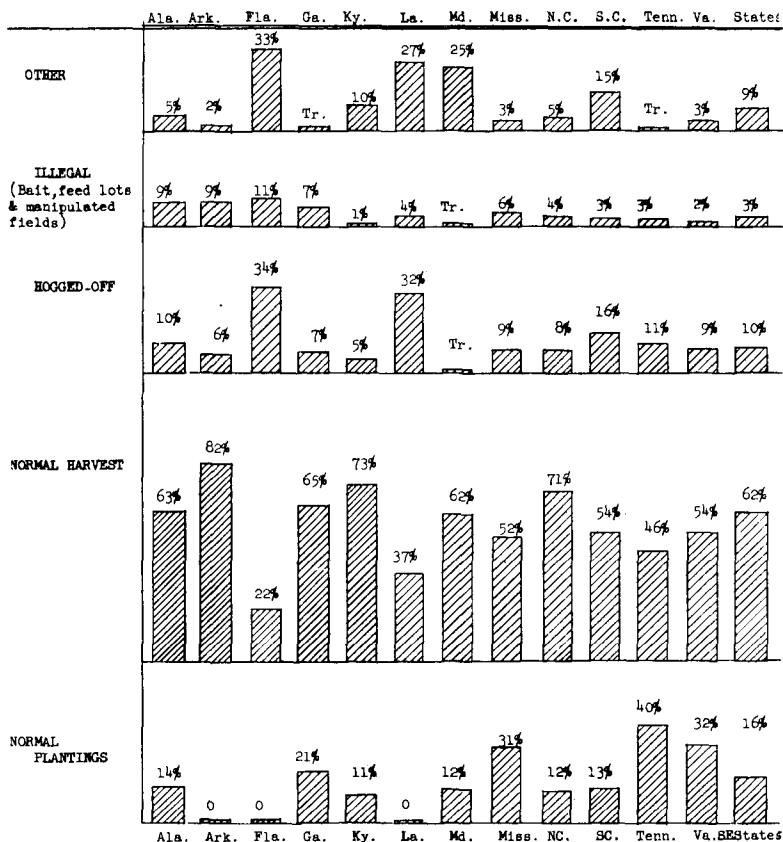
In the above tabulation, no breakdown is provided for combinations of two or more field categories. A limited number of "Normal Planting-Harvesting" combinations were reported, mostly from Maryland. In such cases, "Normal Planting" was used since this was the last operation performed, and usually consisted of sowing fall grains in recently harvested corn fields.

TABLE II.
DOVE KILL DATA
STATE TOTALS
FALL SEGMENT OF 1960 SPLIT SEASON

<i>State</i>	<i>No. of Shoots</i>	<i>No. of Hunters</i>	<i>Hours Hunted</i>	<i>Doves Bagged</i>	<i>Gun/ Hour Success</i>	<i>Per Cent of Total Doves Examined</i>
Alabama	110	1,122	2,839	6,361	2.27	6%
Arkansas	66	367	1,444	2,934	2.03	3%
Florida	82	677	1,339	2,001	1.49	2%
Georgia	115	1,972	7,742	9,023	1.17	9%
Kentucky	724	3,993	10,278	21,580	2.10	20%
Louisiana	60	206	504	774	1.73	tr.
Maryland	324	1,272	3,952	5,440	1.38	5%
Mississippi	105	1,127	3,472	7,061	2.03	7%
North Carolina	359	4,217	14,134	19,634	1.39	18%
South Carolina	232	3,791	12,049	23,031	1.91	21%
Tennessee	80	1,538	3,492	6,728	1.93	6%
Virginia	64	582	1,436	3,762	2.72	3%
Totals	2,321	20,864	62,681	108,329	1.73	100%

mean average 1.85

DOVE KILL DATA—1960
(September-November)
PER CENT OF TOTAL KILL EXAMINED IN EACH STATE
BY TYPES OF FIELDS OVER WHICH TAKEN



NOTE: Shoots in the "Other" category consisted mainly of Standing Crops, Water Holes, Pastures and Roosts. In Florida, citrus groves were reported for 10 shoots; Water Holes were prominent in Kentucky, South Carolina and North Carolina. Pastures came in for lots of attention in Maryland, Louisiana and Florida. Roost shooting made up over one-third of the "Other" category in Kentucky, while in Maryland "Gravel Pits" made up about one-fourth of that category.

THE FIRST GAME MANAGEMENT PROGRAM: THE DOMESTICATION OF ANIMALS

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The first game management program was at the same time a plant management program. Together they resulted in the domestication of plants and animals. As that happened long ago, upward of 10,000 years (1), you may be wondering what lessons it holds for you. I know of none. But you sometimes use domestic plants and animals in your