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November, 1964



Thoughts of a Casual Hunter

I AM AN AVERAGE, hard-working citizen. Once, or maybe twice, each year I get out my gun and go with a few of my friends on a hunting trip. I may take my gun to the woods in search of a deer or I may take my shotgun to shoot a few ducks or pheasant. When the trip is over, the gun goes back into storage and I forget about it for another year. I am what is known as a casual hunter.

For me, hunting is a wholesome form of recreation which I have enjoyed since boyhood. I have always believed that the right to own firearms and to use them for lawful purposes is a part of our American heritage, but it seems that someone is always proposing a law to restrict the use of guns. Each time we plan a trip the places to hunt become harder to find. More and more acreage is being converted to commercial and residential use. As our population grows the demand for land becomes greater. With increased leisure time, more and more people are participating in outdoor activities. It is only natural that many of them turn to hunting. There is more "hunting pressure" because there are more hunters per square mile of available hunting area. Each year there is a greater need for hunting safety. I have known about these things for some time, but I kept asking myself what could I do about it. After all, I am only a casual hunter.

But recently I have been doing some figuring. Come to think of it, there are millions of us "casual hunters". Maybe we are not such insignificant folks after all. Maybe we just don't know our strength. Guess we're just about the most important guys around when decisions are being made concerning our sport. Maybe we'd better start acting the part. From now on we'd better look into things more carefully and take a more active interest in affairs affecting our hunting trips. We are an important factor in all matters relating to guns and shooting in our local communities, in our states, and in our nation. This is true whether or not we do anything about it.

Perhaps the most important thing for me and the millions of other fellows like me to keep in mind is that **there are many casual hunters, but little or no casual hunting**. If we are going to continue to enjoy the pleasures of the sport of hunting, we have a responsibility to help solve the problems which exist. Each of us has a job on our hands which we cannot pass to anyone else. We must express our opinions when we hear the old chestnut, "There ought to be a law!" We must take an active interest in matters relating to game conservation and the preservation of hunting areas. We must encourage firearms safety education to teach hunters how to properly handle their guns and avoid accidents.

We can work together in our own interests. We can become members of our local shooting groups and take an active part in the programs affecting our sport. We can join and support the National Rifle Association of America and other organizations which are doing so much for all hunters. We may be casual hunters, but we cannot afford to be casual about hunting. #

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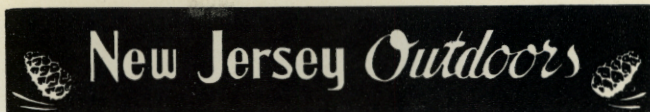
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In This Issue

Thoughts of a Casual Hunter	C-2
Beagles for Rabbits	2
Hunting Success	4
Hunting Luck	16
Lands Open to Hunters	17
Public Grounds and Forests—Map	20
Gunning Possibilities	25
We Never Had It So Good	26
Hunting Prospects	29
The Cottontail Rabbit	30
Commissioner Roe's Interest	32
Fur, Fin and Campfire	34
Council Highlights	35
Violators Roundup	39

Cover—"First of the Year"—*Harry Grosch*

There is a special thrill to loading up for the first time any hunting season, whether it be for ducks, pheasant, grouse, squirrel, or quail. This expectant gunner is loading for rabbits he hopes will circle in front of his beagles.

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It's Beagles for Rabbits

For the dyed-in-the-wool rabbit hunter nothing beats a crisp, frosty fall morning, a brace of beagles giving tongue on the hot track of a cottontail, and the expectant wait for the flash of the bouncing quarry. The rabbit is New Jersey's number one small game mammal. Over 100,000 licensed hunters followed the sport and bagged over a third of a million last season.





Rabbit hunting is top sport for young or old, November or December, and no matter how you like to hunt. But, for the very best with the cottontails, a beagle or two or more is a must. The merry little hounds enliven every hour of the hunt, are sure to increase the chances for shots, and provide most pleasant companionship.

Photographs by Harry Grosch



November, 1964

a look at your

Hunting Success

An Estimate of the Wildlife Harvest in New Jersey in 1963-64

By Charles W. Wright

This report deals with the thirteenth annual survey of the small game harvest in New Jersey during the fiscal year of 1963-64. Effort was continued during the year to improve the survey by use of the most efficient statistical techniques and procedures. The reliability attained in these surveys has afforded a practical utilization of the estimates provided in formulating management policies and regulations. This report indicates that the economic and recreational benefits continued to be derived from the efforts of the licensed sportsmen of New Jersey during the past year.

Type of Survey

The estimate of the harvest of seven important small game species during the 1963-64 hunting seasons in New Jersey was derived from the response to questionnaires mailed by the Division of Fish and Game to a systematic sample (with

a random start) of residents and nonresidents licensed to hunt with firearms in the State.

Sample Frame

The frame from which the hunters' names were obtained was the stubs of regular resident and nonresident firearm hunting licenses purchased during the calendar year of 1961 in the State. Experience has established that a frame can be used for two successive annual surveys, after which the sample size becomes reduced and randomness impaired making it desirable to construct a new frame. This survey is the second one to be conducted from the sample list taken from the 1961 frame of licensed hunters.

The validity of the estimates derived from the data collected in this manner rests upon the assumption that the important characteristics of the populations of licensed hunters in New Jersey do not differ materially from year to year except in numbers.

The form of questionnaire used followed that of the survey of

Charles W. Wright, who retired this summer after many years of service with the Division, was the Division's Biometric Analyst when he wrote this report.

1962-63, and included seven small game species, namely, rabbit, squirrel, pheasant, quail, grouse, duck and brant. The recipient was requested to reply affirmatively or negatively that he purchased a firearm hunting license in 1963, and whether he used it. He was requested also to state whether he hunted deer with a firearm in New Jersey in 1963. Inquiry was continued to be made concerning the number of each game species listed that was bagged by the recipient on lands open to hunting in the State. A separate listing was made of each of the seven species with provision for the recipient to check-mark the ones he hunted in New Jersey during the

1963-64 seasons, whether or not he actually bagged any game.

The questionnaire form allows the respondent to maintain anonymity. It is believed that by virtue of this design that more confidential and less biased replies are obtained.

Sample Size

Questionnaires were mailed to 8,000 hunters selected as stated. This sample constituted approximately 5.2 of the total number (152,673) of resident and non-resident firearm hunter licensees in the State during the calendar year of 1963. An approximate 4.5 percent sample was taken in the previous annual survey.

The questionnaires were mailed

Last year's success could indicate this season's prospects



. . . Hunting Success

to the sample hunters near the close of the extended seasons in early 1964. Responses were accepted for about 30 days, after which time they were excluded from the calculations because of the probable presence of excessive memory bias.

Solicitation of additional samples of the non-residents was not made. It is assumed that no appreciable amount of bias exists in the response to an initial mailing of these game harvest questionnaires insofar as its being representative of the entire hunter population from which the sample is drawn. The validity of this assumption has been discussed elsewhere (Atwood, 1954, Wright, 1955).

Unsuccessful Contacts

A reply in some form was received from 3,667 of the 8,000 firearm hunters (and trappers) to whom contact by mailed questionnaires was attempted. All these replies did not constitute responses to the specific inquiries made regarding the wildlife harvest. One hundred forty-nine cards, or 1.86 percent of the total number (8,000) mailed out, were returned by the postal authorities as undelivered for stated reasons. This percentage may be compared with 1.41 percent in the survey of 1962-63.

Non-purchasers of Licenses

The number of respondents who stated that they had not purchased a firearm hunting license in 1963

totalled 732, or 20.8 percent of the 3,518 hunters with whom contact was successful. This percentage may be compared with 15.9 in the 1962-63 survey (one-year old list), and 20.9 in the 1961-62 survey (two-year old list).

Consistent with the basic assumption underlying these surveys is the expectation that an equable percentage of non-purchasers should exist in the non-response stratum of the sample. If so, then successful contact was made with the equivalent of 6,218 hunters, or 4.1 percent of the total number (152,673) of regular resident and nonresident firearm hunting licensees of 1963 (calendar year). Successful contact was made with 3.7 percent in the previous survey of 1962-63.

Response to the Sample

A response from 44.8 percent of the sample was obtained, since 2,786 of the 6,218 licensees contacted provided the requested information. In the 1962-63 survey, when the sample list was one year old, the response was 54.8 percent.

Non-use of Licenses

Within the sample, seventy licenses purchased were not used. Therefore, approximately 2.5 percent of the 2,786 respondents who purchased firearm hunting licenses in 1963 failed to use them. Consequently, the participating respondents totalled 2,716, or 1.8 percent of the active licensed population (148,838) of hunters and trappers, as compared with 2 percent

in the 1962-63 survey. The active licensed population may be defined as all the individuals who engaged in hunting with a firearm one or more species of game, or in trapping furbearers. It is estimated to have been the total number (152,673) of licensees less the estimated 3,835 individuals (approximately 2.5 percent) who failed to use their licenses, or 148,838 licensees.

Species Not Listed

The questionnaire made inquiry concerning the number of hunters and the harvest of only seven game species. Inquiry was made also concerning the number who hunted deer with firearms in New Jersey. It became necessary, therefore, to break down the total number (148,838) of active licensees in the State into two groups, namely, those who hunted one or more of the listed species, and those who used their licenses for trapping only or hunting game species (including deer) not listed on the questionnaire.

In the sample, 232 (approximately 8.5 percent) of the 2,716 participating respondents did not hunt any of the seven listed game species, as compared with approximately 7 percent in the previous number (232) to the universe of 148,838 active licensees in the State in 1963 it is estimated that 136,126 of these individuals did hunt one or more listed species, and that 12,712 individuals hunted other non-listed species only, or trapped furbearers.

The 1963 survey indicates that approximately 73 percent of the active firearm licensees in the State hunted deer. This represents a total of 109,215 (plus or minus 2,366 at the 95 percent probability level) firearm deer hunters. Thus, for the third year, deer retained first place in number of hunters for any game species in New Jersey with pheasants (104,125) in second place, and rabbits (101,660) in third.

Of the 109,215 firearm deer hunters, approximately 11,130 used their licenses exclusively to hunt deer.

Trapping Furbearers

No inquiry was made concerning the harvest of furbearers, but each recipient was requested to state whether he used his license for hunting or trapping, or both. It was estimated from the response that approximately 327 licensed individuals in the State in 1963 used their licenses exclusively for trapping. Those who used their licenses for both trapping and hunting totaled 5,373. There were, therefore, an estimated 5,700 licensed trappers in New Jersey in 1963, as compared with 6,695 in 1962, 4,160 in 1961, and 3,500 in 1960.

Statistical Treatment

The response data of this survey were treated by means of the same statistical procedures as used in the annual surveys since 1961.

Bias identification and reduction (Atwood, 1954; Wright 1955), curve fitting (Ezekiel, 1941; Rider,

. . . Hunting Success

1955), and other techniques have been fully described in former reports and need not be repeated here.

Totals in the reported estimates

licensed hunters in New Jersey on lands open to public hunting during the 1963-64 season, and the estimated mean seasonal bag per hunter are presented in Tables 1 and 2, respectively. Estimates of the previous season of 1962-63 are

Table 1. Wildlife Harvest by Licensed Hunters on Lands in New Jersey Open to Public Hunting, as estimated by Mail Questionnaire Sample Survey.

Species	Estimated Harvest		Change from 1962-63		
	1963-64	1962-63	Increase	Decrease	Percent
Rabbit	354,545	327,605	26,940		8.2
Pheasant	233,290	246,815		13,525	5.5
Squirrel	146,365	141,430	4,935		3.5
Quail	85,445	80,550	4,895		6.1
Duck	46,610	36,770	9,840		26.8
Grouse	33,920	32,380	1,540		4.8
Brant	21,360	18,200	3,160		17.4

have been rounded to the nearest five. Most percentages and means are presented with one decimal place to facilitate reading and interpretation, but the computations

included in both tables for comparison.

The computed kill of these seven small game species based on the sample survey, totaled 921,533

Table 2. Estimated mean Seasonal Bag per Licensed Hunter in New Jersey in 1963-64, 1962-63, and 1961-62.

Species	1963-64	1962-63	1961-62
Rabbit	3.49 ± 0.09	3.04 ± 0.08	4.08 ± 0.12
Duck	2.67 ± 0.24	2.45 ± 0.26	2.48 ± 0.18
Brant	2.63 ± 0.34	2.02 ± 0.24	1.71 ± 0.25
Squirrel	2.45 ± 0.11	2.18 ± 0.06	2.66 ± 0.10
Quail	2.29 ± 0.12	2.27 ± 0.13	1.80 ± 0.11
Pheasant	2.24 ± 0.07	2.25 ± 0.05	2.56 ± 0.07
Grouse	1.49 ± 0.11	1.50 ± 0.10	1.45 ± 0.11

were made with as many as four decimal places where desirable.

The attached confidence intervals are at the 95 percent probability level.

The estimated total amount of the seven game species bagged by

units, as compared with 883,750 units in 1962-63. Rabbits made up more than 38 percent of the total bag, as compared with 37 percent in 1962-63, and nearly 42 percent in 1961-62.

The harvests of six species

showed increases over those of the previous year, namely, duck (26.8 percent), brant (17.4 percent), and squirrel (3.5 percent). The harvest of one species is indicated to have

1962, or approximately 5.6 percent of the 1962 total (107,685).

68.3 percent of all participating licensees in the State hunted rabbits, as compared with 69 percent

Harvest among rabbit hunters in 1963 compared with that of 1962

Season Bag per hunter	1963		1962	
	No. of rabbit hunters	Percent of all rabbit hunters	No. of rabbit hunters	Percent of all rabbit hunters
0	25,933	25.5	31,110	28.9
1- 4	46,916	46.2	50,170	46.6
5- 9	20,606	20.3	19,997	18.6
10-24	8,072	7.9	6,246	5.8
25-50	132	0.1	140	0.1
Over 50	1	—	22	—
	101,660	100.0	107,685	100.0

declined, namely, pheasant (5.5 percent). These changes are discussed in the following section of this report.

Harvest by Species

Rabbit

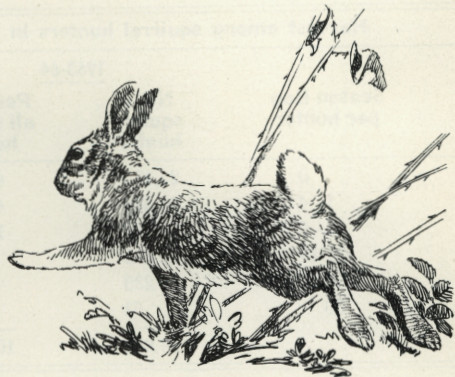
The survey indicates that the rabbit harvest of 1963 totaled 354,545 (plus or minus 13,550 at the 95 percent probability level) rabbits, or 26,940 more than in 1962. This represents an increase of 8.2 percent. This is the first increase following three consecutive years of decline.

The mean seasonal take per hunter was 3.49 ± 0.09 , as compared with 3.04 ± 0.08 in 1962.

It is indicated that this game species retains a high place in the preference of New Jersey hunters inasmuch as 101,660 licensed individuals hunted rabbits in 1963. This number is 6,025 less than in

in 1962. This percentage was exceeded only by pheasant and deer.

Seasonal bags of ten or more



The rabbit harvest was up

rabbits constituted about 8 percent of the total harvest, as compared with about 6 percent in 1962.

Squirrel

The squirrel harvest of 1963-64 is estimated to have totaled

. . . *Hunting Success*

146,365, plus or minus 9,490 at the 95 percent probability level (only 1 chance in 20 that the actual harvest total did not lie within these



More squirrels were bagged

limits). There were an estimated 4,935 (3.5 percent) more squirrels taken than in the previous year. This was the first year to show an increase in harvest, following two consecutive years of decline.

The mean seasonal take per

viduals who purchased and used their hunting licenses hunted squirrels, as compared with nearly 42 percent during the previous year. The squirrel has held third place in small game popularity among hunters since 1953 when these surveys were initiated.

Pheasant

The survey indicates that the pheasant harvest in 1963 was 233,290, plus or minus 10,955 at the 95 percent probability level. There is one chance in 20 that the actual harvest total did not lie in the range of 222,335 to 244,245.

The data suggest that there were 13,525 (5.5 percent) less pheasants taken than during the previous year. This decline in total number harvested is understand-

Harvest among squirrel hunters in 1963-64 compared with that of 1962-63

Season Bag per hunter	1963-64		1962-63	
	No. of squirrel hunters	Percent of all squirrel hunters	No. of squirrel hunters	Percent of all squirrel hunters
0	24,175	40.4	26,246	40.5
1- 4	24,534	41.0	28,462	43.9
5- 9	8,138	13.6	7,653	11.8
10-19	2,693	4.5	2,236	3.5
20-29	239	0.4	182	0.3
30 +	61	0.1	26	tr.
	59,840	100.0	64,805	100.0

hunter was 2.45 ± 0.11 , as compared with 2.18 ± 0.06 in the previous year.

The total number of squirrel hunters in the State is estimated to have been 59,840, as compared with 64,805 in 1962-63. Approximately 40 percent of all those indi-

able since there were 5,730 (5.2 percent) less pheasant hunters in 1963. With a mean seasonal take per hunter of 2.24 birds, this could account for 95 percent of the decline in total harvest. The mean seasonal take in 1962 was 2.25.

The total number of pheasant

hunters in the State was 104,125, as compared with 109,855 in 1962. Seventy percent of all licensed sportsmen who hunted sought

retains first place in small game popularity among hunters.

During the season, nearly 65 percent of all those who hunted pheas-

Harvest among pheasant hunters in 1963 compared with that of 1962

Season Bag per hunter	1963		1962	
	No. of pheasant hunters	Percent of all pheasant hunters	No. of pheasant hunters	Percent of all pheasant hunters
0	36,964	35.5	28,573	26.0
1- 4	50,813	48.8	65,891	60.0
5- 9	13,016	12.5	12,568	11.4
10-19	2,916	2.8	2,560	2.3
20-30	416	0.4	263	0.2
	104,125	100.0	109,855	99.9

pheasants, as compared with more than 76 percent in 1962, and nearly 69 percent in 1961. The pheasant

ants in New Jersey were successful in bagging at least one bird. This constitutes odds of 1.8 to 1 in favor of success, as compared with 3 to 1 in 1962.



Pheasants are most popular bird

Quail

The quail harvest in 1962-63 is estimated to have been 85,445 (plus or minus 6,645) birds at the 95 percent probability level, or an increase of 4,895 (6.1 percent) over that of 1962-63. The present harvest is the greatest during the past eleven years, exceeding that of the previous season (80,550) which was believed to be a record for New Jersey. The mean seasonal take per hunter was 2.29 ± 0.12 , as compared with 2.27 ± 0.13 in 1962-63.

The total number of quail hunters in the State is estimated to have been 37,375, as compared with 35,510 in the previous year. This is a record high in the past eleven years, and reflects the popu-

. . . *Hunting Success*

larity of this important game species among New Jersey sportsmen. The sample data indicate

sought quail, as compared with 23 percent the previous year. More than 61 percent of those who hunted quail were successful in bagging at least one bird during the season,

Harvest among quail hunters in 1963-64 compared with that of 1962-63

Season Bag per hunter	1963-64		1962-63	
	No. of quail hunters	Percent of quail hunters	No. of quail hunters	Percent of quail hunters
0	14,427	38.6	17,655	49.7
1- 4	16,557	44.3	11,250	31.7
5- 9	5,195	13.9	4,744	13.4
10-24	1,159	3.1	1,829	5.1
25 +	37	0.1	32	0.1
	37,375	100.0	35,510	100.0

that 25 percent of all those individuals who purchased and used their firearm hunting licenses

whereas in 1962-63 this percentage was 50, and in 1961-62 it was 45. Hunting success in these terms was almost as high as with pheasants the past season.



The Quail take was a record

Grouse

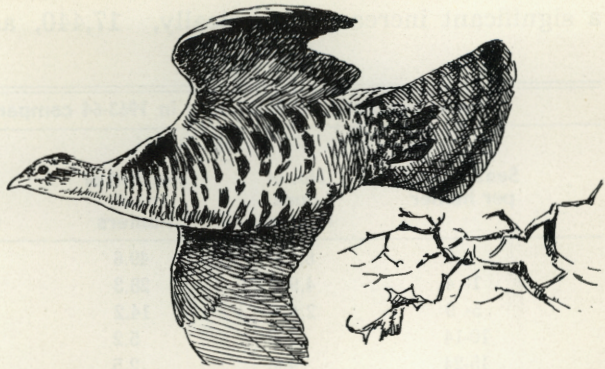
An estimated harvest of 33,920 (plus or minus 3,675 at the 95 percent probability level) grouse was made in 1963-64. This suggests an increase of 1,540 (4.8 percent) over that of the previous season, but it is not significant statistically and is likely to be due merely to sampling variation between years. While grouse continue to be in good supply in most of its habitat, it may be expected that the total annual harvest will decline somewhat in the coming season because of the natural characteristic of grouse populations. The harvest of the past season was the highest in the past seven years

that this survey has been conducted on this species.

The mean seasonal take per

(firearm hunting) hunted grouse. More than 58 percent of all grouse hunters were successful in bagging

Grouse continue to be in good supply



hunter was 1.49 ± 0.11 , as compared with 1.50 ± 0.10 in 1962-63, and 1.45 ± 0.11 in 1961-62.

The total number of grouse

at least one bird during the season, as compared with about 48 percent the previous season. This increase in success lies in the greater num-

Harvest among grouse hunters in 1963-64 compared with that of 1962-63

Season Bag per hunter	1963-64		1962-63	
	No. of grouse hunters	Percent of grouse hunters	No. of grouse hunters	Percent of grouse hunters
0	9,230	41.8	11,198	51.7
1- 4	11,327	51.3	8,215	38.0
5- 9	1,170	5.3	1,887	8.7
10-14	221	1.0	314	1.5
15 +	132	0.6	26	0.1
	22,080	100.0	21,640	100.0

hunters in the State is estimated to have been 22,080, as compared with 21,640 in 1962-63. This number represents an increase of about 2 percent over that of the previous season, and is the highest number of grouse hunters in the past seven years.

Nearly 15 percent of all those licensees who used their licenses

ber of small bags (1-4 birds each) taken in 1963-64.

Duck

Survey data indicate that the duck harvest in New Jersey by licensed hunters increased 9,840 (26.8 percent) birds in 1963-64 when the total is estimated to have reached 46,610 (plus or minus 6,190 at the 95 percent probability

. . . Hunting Success

level), as compared with a total harvest of 36,770 in 1962. This is a significant increase statistically,

compared with 2.45 ± 0.26 the previous year.

The total number of duck hunters is estimated to have been 17,440, as compared with 15,000

Harvest among duck hunters in 1963-64 compared with that of 1962

Season Bag per hunter	1963-64		1962	
	No. of duck hunters	Percent of duck hunters	No. of duck hunters	Percent of duck hunters
0	8,650	49.6	9,183	61.2
1- 4	4,936	28.3	2,738	18.2
5- 9	2,476	14.2	1,842	12.3
10-14	907	5.2	782	5.2
15-24	436	2.5	369	2.5
25 +	35	0.2	86	0.6
	<u>17,440</u>	<u>100.0</u>	<u>15,000</u>	<u>100.0</u>

and may be attributed chiefly to a larger available duck population. The duck harvest in New Jersey has been declining since 1958, and

in 1962, constituting an increase of more than 16 percent. It is estimated that 11.7 percent of all those individuals who purchased

Harvest among brant hunters in 1963-64 compared with that of 1962

Season Bag per hunter	1963-64		1962	
	No. of brant hunters	Percent of all brant hunters	No. of brant hunters	Percent of all brant hunters
0	3,388	41.7	6,167	62.1
1- 4	3,145	38.7	2,358	23.7
5- 9	1,040	12.8	963	9.7
10-14	366	4.5	360	3.6
15-19	81	1.0	63	0.6
20-29	89	1.1	24	0.3
30 +	16	0.2	—	—
	<u>8,125</u>	<u>100.0</u>	<u>9,935</u>	<u>100.0</u>

the 1963-64 season was the first one to show a reversal of this condition, which should be encouraging to the hunters of this species.

The estimated mean seasonal take per hunter was 2.67 ± 0.24 , as

and used their firearm hunting licenses hunted ducks. This may be compared with 9.7 percent in 1962, and 12 percent in 1961.

The survey data show that the number of brant harvested in New

Jersey in 1963-64 was 21,360 (plus or minus 4,105 at the 95 percent probability level.) This constitutes an increase of 3,160 birds, or about 17 percent more than in 1962.

The estimated mean seasonal take per hunter was 2.63 ± 0.34 , as compared with 2.02 ± 0.24 in 1962, and 1.71 ± 0.25 in 1961.

The estimated total number of brant hunters in the State was 8,125, as compared with 9,025, in-

creases in the number of hunters, as follows:

Brant, 10.0; Squirrel, 7.7;
Rabbit, 5.6; Pheasant, 5.2

Resident and non-resident firearm hunting licenses purchased in New Jersey during the calendar year of 1963 totaled 152,673, as compared with 159,009 in 1962, and 152,854 in 1961. This constitutes a decrease in 1963 of 6,336 (4.0 percent) licenses. There were an

Table 3. Estimated Total Number of Licensed Hunters in New Jersey by Game Species for three years.

Species	1963-64	1962-63	1961-62
Deer	109,215	112,595	107,035
Pheasant	104,125	109,855	102,370
Rabbit	101,660	107,685	102,340
Squirrel	59,840	64,805	62,865
Quail	37,375	35,510	36,390
Grouse	22,080	21,640	20,475
Duck	17,440	15,000	18,060
Brant	8,125	9,025	9,935

dicating a decrease of nearly 10 percent. About 5.5 percent of all active firearm hunters hunted brant, as compared with about 5.8 percent in 1962.

Hunters of Each Species

The estimated total number of hunters of each of the seven listed game species is presented in Table 3. Comparison is made with the two previous seasons.

Three listed small game species showed increases in the number of hunters over those of 1962-63. The increase in percentage follows:

Duck, 16.3; Quail, 5.3; Grouse, 2.0.

Four listed species showed de-

estimated 3,835 (2.5 percent) license holders who failed to use their licenses, as compared with 3,963 (2.5 percent) in 1962.

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Hunting Luck



By Joe Linduska

Who has the most luck in hunting? "Hunting luck" is a minus quantity and the fellow who has the most *success* in hunting is the fellow who works the hardest at it.

Hunting is pretty much like anything else you get just about what you put into it. If you are out to enjoy an outing and get the fullest benefit of the many, many facets of the outdoors in its varied moods, you can let the game bag become incidental and take your chances with hunter's luck. But if you are out to fill your bag limit, trusting to hunter's luck will seldom produce optimum results.

To bag game, or catch fish, you must not only have a certain amount of know-how but you must also put out a considerable amount of effort in making that know-how work. Some hunters seem to have a knack for being in just the right shooting position every time a bird is flushed. If game is walked up, they are invariably the ones who flush it. You might consider such people lucky but close observation usually shows that they are *working* at the job of hunting every minute in the field. They are apt to be keen students of wildlife habits. They know what kind of cover to hunt at what time of day and they watch for shifts in the wind. Their remarkable "luck" is merely an energetic application of knowledge gained through hunting experience.

Of course, hard work afield will not alone fill the game bag. A supply of game has to be there first. But the interested and energetic hunter will generally do something about seeing the proper habitat conditions prevail on the hunting grounds he uses regularly. #

LANDS OPEN TO HUNTERS

The Public Hunting Grounds and the State Forests

Many sportsmen are finding that the answer to finding a place to hunt is to hunt on one of the many state-owned tracts open to hunters, fishermen, and the general public.

The Public Shooting and Fishing Grounds of the Division of Fish and Game and the State Forests of the Forests and Parks Section are open to all sportsmen licensed to hunt in New Jersey. The Division's grounds were purchased with a portion of your license dollars, the Forests from your tax money. They are your lands to use.

Most of these lands are located in the northwestern and southern part of the State away from the centers of population simply because it is chiefly in these areas that suitable land was available. However, the modern State and Authority highway systems make each area readily accessible and within reach of all sportsmen for even a day's hunt. You should be able to reach one in an hour's drive.

Because of their easy accessibility, and because of the decrease in the acreage of private lands available to hunters in general, these lands, especially the intensively managed and heavily stocked public shooting grounds, are heavily utilized by gunners. So expect plenty of company. But, you can at least count on a place to hunt.

The land map on pages 20 and 21 is presented for your convenience in locating the various tracts of state land open to hunters. The scale and outlines of the areas are merely approximate. Additional information about lands and facilities is given on the following pages.

PUBLIC HUNTING & FISHING GROUNDS

<i>Tract</i>	<i>County</i>	<i>Kind of Game</i>
1. Corbin City	Atlantic	Duck,* rabbit, quail, pheasant, rail, deer, snipe, raccoon, squirrel.
2. Medford	Burlington	Quail, pheasant, rabbit,* squirrel.
3. Winslow	Camden	Deer.*
4. Tuckahoe	Cape May	Rabbit, quail, pheasant, duck,* rail, deer, snipe, raccoon, squirrel.
5. Marmora	Cape May	Duck,* rail, geese, brant.
6. Dennis Creek	Cape May	Duck,* rail, snipe, geese.
7. Millville	Cumberland	Rabbit, quail,* raccoon, pheasant, squirrel, deer.
8. Egg Island	Cumberland	Waterfowl,* rail.
9. Heislerville	Cumberland	Waterfowl,* pheasant, quail, rail, rabbit, squirrel.
10. Peaslee	Cumberland	Deer,* quail, squirrel, raccoon, fox.
11. East Point	Cumberland	(Landing for Cadwalader and Egg Island Public Shooting and Fishing Grounds.)
12. Glassboro	Gloucester	Rabbit, quail,* raccoon, pheasant, squirrel.
13. Clinton	Hunterdon	Pheasant,* squirrel, deer, rabbit.
14. Turkey Swamp	Monmouth	Pheasant, squirrel, deer, rabbit, quail.*
15. Berkshire Valley	Morris	Pheasant,* squirrel, deer, rabbit, woodcock.
16. Manahawkin	Ocean	Waterfowl, quail,* pheasant, rabbit, raccoon, deer.
17. Greenwood Forest	Ocean	Raccoon, fox, deer,* squirrel.
18. Colliers Mills	Ocean	Waterfowl, quail,* pheasant, rabbit, raccoon, deer.
19. Whitings	Ocean	Deer,* fox, raccoon.
20. Manchester	Ocean	Deer,* fox, raccoon.
21. Pasadena	Ocean	Deer,* fox, raccoon.
22. Butterfly Pond	Ocean	Ducks.*
23. Mad Horse Creek	Salem	Ducks,* snipe, rail, geese.
24. Walpack	Sussex	Pheasant, rabbit, grouse,* woodcock, deer.
25. Roy	Sussex	Pheasant,* rabbit, grouse, woodcock, deer.
26. Hainesville	Sussex	Pheasant,* rabbit, grouse, woodcock, deer.
27. Flatbrook Valley	Sussex	Pheasant,* rabbit, grouse, woodcock, deer.
28. Hamburg Mountain	Sussex	Deer, woodcock, grouse,* squirrel.

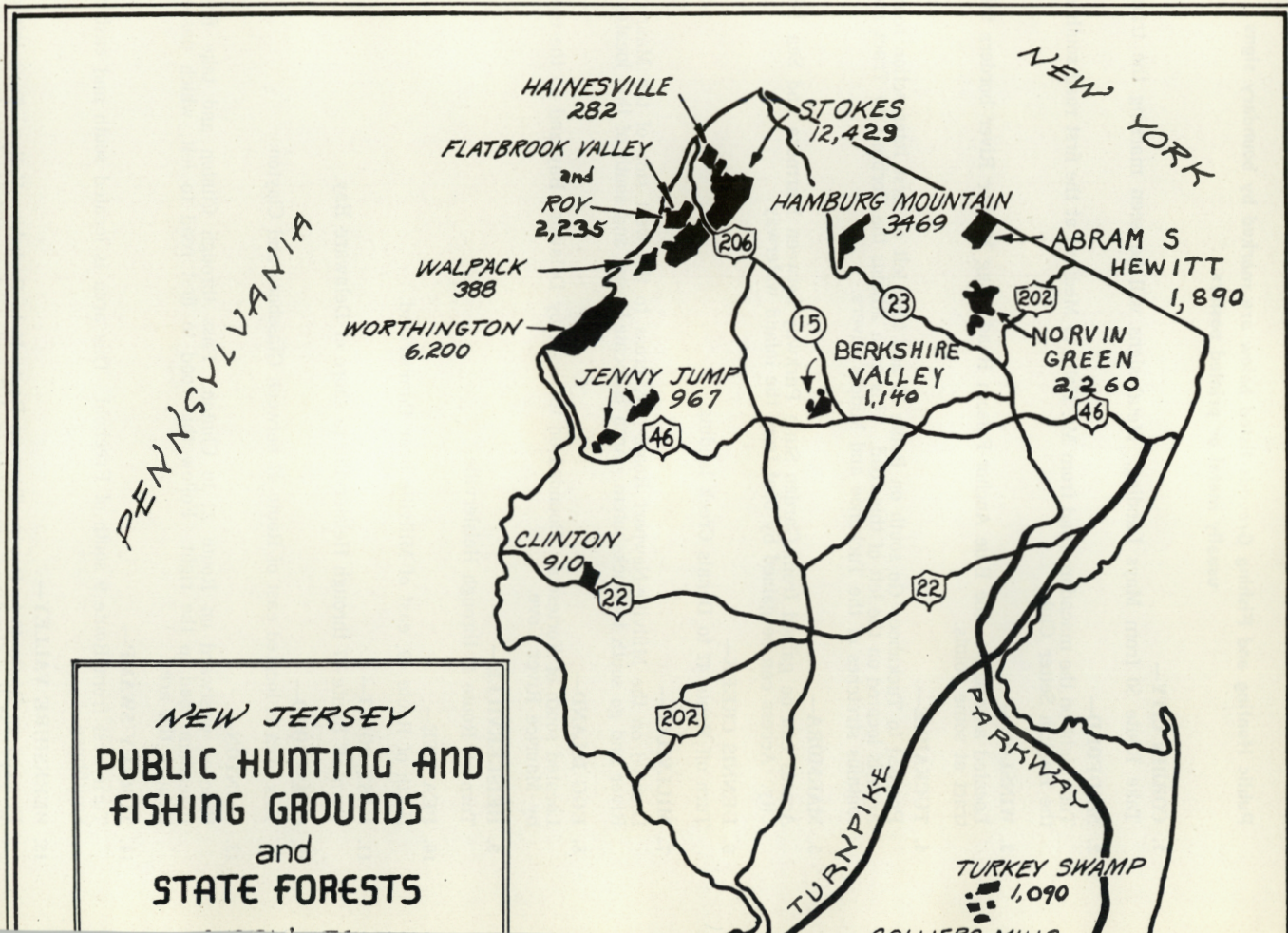
* Most important species

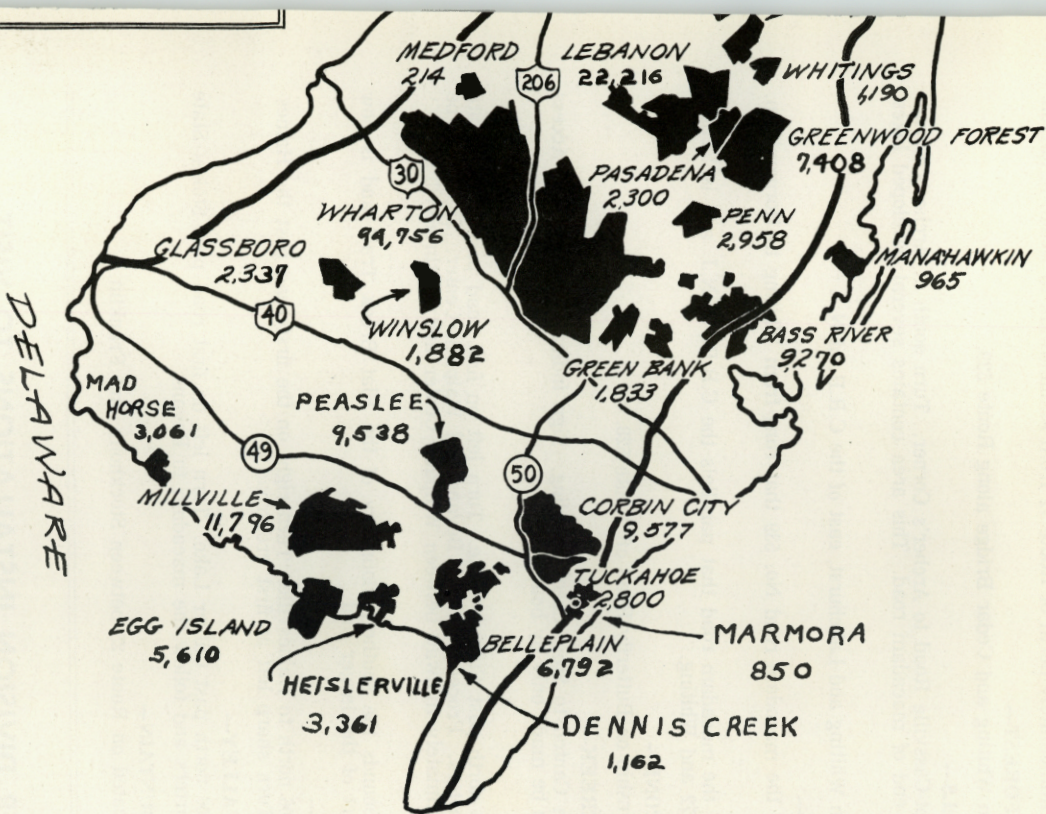
Note: The Turkey Swamp, Greenwood Forest, Whitings, Manchester, Pasadena, and Hamburg Mountain Tracts are undeveloped as yet and offer only limited facilities.

Directions for Locating Public Hunting and Fishing Grounds

Public Hunting and Fishing Grounds listed below are marked by boundary signs usually metal or printed posters.

1. **CORBIN CITY—**
Take Route 50 from Mays Landing. Metal signs will be seen marking the tract.
2. **MEDFORD—**
Turn right on the macadam road from Mt. Holly to Medford at the first road south of the English Setter Club.
3. **WINSLOW—**
Located adjacent to the Blue Anchor-Folsom Road. Egg Harbor River borders this tract at some points.
4. **TUCKAHOE—**
Proceed to Tuckahoe. Go south on Route 50 and turn left on first intersection road. Area is located on the left of this road. This area adjoins the Corbin City Tract and contains stretches of the Tuckahoe and Middle Rivers.
5. **MARMORA—**
Access can be gained from Garden State Parkway between Marmora and Sea Isle City. Access can be gained by boat from the inland waterway.
6. **DENNIS CREEK—**
Turn off Route 47 to Dennis Creek landing.
7. **MILLVILLE—**
Located on the Millville-Newport Road. Or, cross to the west side of the Maurice River and go south to Buckshutem. Area is located west and south of this location.
8. **EGG ISLAND—**
Located south of Fortescue. Bounded on the west by Delaware Bay and on the east by Maurice River Cove.
9. **HEISLERVILLE—**
Turn off Route 47 through Heislerville.
10. **PEASLEE—**
North of Route 49, east of Millville near Cumberland.
11. **EAST POINT—**
Turn off Route 47 through Heislerville to shore of Delaware Bay.
12. **GLASSBORO—**
This area is located east of Route 47 between Glassboro and Clayton.
13. **CLINTON—**
Proceed westward on Route 22 to Clinton. Pass through Clinton and take first macadam road to the right. Follow this road to first road to left, which passes through the area.
14. **TURKEY SWAMP—**
Turn west from Route 9 south of Freehold. This area is located south and east of Smithburg.
15. **BERKSHIRE VALLEY—**
Proceed on Route 46 to Dover. Turn on Route 15 to Berkshire Valley. Turn left at Berkshire Valley Hotel and proceed toward Kenvil. (Please turn to page 22.)





New Jersey Outdoors
NUMBERS INDICATE ACREAGE
EXCEPTIONS NOT SHOWN

Directions for Locating Public Hunting and Fishing Grounds

16. **MANAHAWKIN—**
Area is located immediately north of Route 72 from Manahawkin to Beach Arlington.
17. **GREENWOOD FOREST—**
Located between Whiting and Cedar Bridge along Route 539.
18. **COLLIERS MILLS—**
Take New Egypt-Cassville Road to Archer's Corner. Turn south at Archer's Corner and proceed to end of macadam road. This area contains several developed lakes.
19. **WHITINGS—**
Located between Whiting and Lakehurst, east of the C.R.R. of N.J.
20. **MANCHESTER—**
Located east of the macadam road No. 539 that runs from Whiting to Hornerstown.
21. **PASADENA—**
Located east of the macadam road that parallels the C.R.R. of N.J. and is located between Route 72 and Whiting.
22. **BUTTERFLY POND—**
In Jackson Township on Butterfly Road off Route 528.
23. **MAD HORSE CREEK—**
Take road from Canton to Stow Creek Landing. Sign indicates dock area. Access to this area can be made only by boat.
24. **WALPACK—**
Take Route 206 north past Culvers Lake. Turn left on first road past Stokes State Forest Headquarters. Proceed through Bevans and Walpack Center. Signs will be observed approximately midway between Walpack Center and Flatbrookville.
25. **ROY—**
This property bounds the southern boundary of the Flat Brook Tract and is now regarded as part of the larger unit.
26. **HAINESVILLE—**
Follow Route 206 north to Hainesville. Turn right on the first road past the Hainesville Garage. Turn sharp left at first crossroad.
27. **FLATBROOK VALLEY—**
Follow Route 206 north past Culver Lake. Turn left on first road past Stokes State Forest Headquarters and follow the macadam to Bevans.
28. **HAMBURG MOUNTAIN—**
This area is located on Route 23 between Stockholm and Franklin.

OTHER DIVISION INSTALLATIONS TO VISIT

1. **CHARLES O. HAYFORD FISH HATCHERY—**interesting anytime of the year. Located west of the Hackettstown business district. Follow "Hatchery" signs.
2. **EDWARD H. ROTH GAME FARM—**a model unit where the bobwhite quail are produced. Located on Route 528 at Holmsville, south of the road.
3. **FORKED RIVER GAME FARM—**ring-necked pheasant breeding and experimental rabbit project. Located on U. S. Route 9 in Forked River, east of the road.
4. **ROCKPORT GAME FARM—**vast pheasant producing farm. Located at Rockport, southwest of Hackettstown, and northwest of Beattytown.

STATE FORESTS OPEN TO HUNTERS

<i>Forest</i>	<i>County</i>	<i>Kind of Game</i>
A. Bass River	Burlington and Ocean	Squirrel, deer,* rabbit, raccoon.
B. Belleplain	Cape May and Cumberland	Rabbit, deer,* raccoon, squirrel.
C. Green Bank	Burlington and Atlantic	Rabbit, deer, raccoon, quail.*
D. Abram Hewitt	Passaic	Grouse,* deer, rabbit, squirrel.
E. Jenny Jump	Warren	Grouse,* squirrel, deer.
F. Lebanon	Burlington and Ocean	Deer,* rabbit, fox, raccoon.
G. Norvin Green	Passaic	Grouse,* squirrel, deer.
H. Penn	Burlington	Raccoon, fox, deer,* squirrel.
I. Stokes	Sussex	Deer,* rabbit, grouse, squirrel.
J. Worthington	Warren	Deer,* grouse, squirrel, raccoon, fox.
K. Wharton	Atlantic, Burlington, Camden	Deer, rabbit, fox, raccoon, quail, woodcock, grouse.

* Most important species

DIRECTIONS FOR LOCATING STATE FORESTS

State forests are marked by boundary signs usually carved in wood or printed posters.

A. BASS RIVER STATE FOREST—

Located north and east of New Gretna between Wading River and Tuckerton. Take Route 563 Spur. U. S. 9 or Garden State Parkway.

B. BELLEPLAIN STATE FOREST—

Located west and south of Woodbine on Routes 550 and 47. Via Route 47 or 49.

C. GREEN BANK STATE FOREST—

At Greenbank and east of Lower Bank. Via Routes 542 and 563.

D. ABRAM HEWITT STATE FOREST (undeveloped)—

Lies northwest of the town of Greenwood Lake, between Greenwood Lake and Upper Greenwood Lake, via Routes 513 and 511. Inquire locally.

E. JENNY JUMP STATE FOREST—

Part situated north of Buttzville, via U. S. 46. Take road to Mountain Lake. Also part east of Hope in area north of "Land of Make Believe" via Great Meadow road.

F. LEBANON STATE FOREST—

Located east and north of the junction of Routes 70 and 72, between Red Lion and Whiting.

G. NORVIN GREEN STATE FOREST (undeveloped)—

Located north of Butler via Route 23. Take Lindy's Lake road and ask locally.

H. PENN STATE FOREST—

Situated southeast of Chatsworth between Routes 563 and 530. Take Jones Mill road off Route 563 and go southeast. Consult your map and compass.

I. STOKES STATE FOREST—

Located north and south of U. S. 206 above Culvers Lake. Take roads leading south to Tillman Ravine or roads leading north toward High Point. (Watch for High Point State Park boundary signs — No Hunting in Park).

J. WORTHINGTON—

Located northeast of Delaware Water Gap, via U. S. 46. Take river road north.

K. WHARTON—

Located north and east of Hammonton, via U. S. 206 or Routes 534, 536, 541 or 542.

ADDITIONAL STATE HUNTING GROUNDS

Several additional Public Hunting and Fishing Grounds, and additions to previously owned lands, recently acquired by the Division of Fish and Game but not shown on the map and not listed in full include the following lands:

1. The Dix tract of 1,274 acres on Delaware Bay in Fairfield Township, Cumberland County, provides rail and waterfowl shooting.
2. The Menantico tract, 195 acres, lies west of the Peaslee Public Shooting and Fishing Grounds in Cumberland County.
3. The Clarks Pond tract of 164 acres, in Cumberland County, is east of Maskell's Mills.
4. The Nantuxent tract of 787 acres is located southwest of the Millville Grounds in Cumberland County.
5. The Port Republic tract, 755 acres in Atlantic County near the Garden State Parkway, is good for duck, upland game, rail, and snipe.
6. The Marmora tract, Cape May County, has had an addition of 768 acres to make a total of 1,618 acres.
7. The Dennis Creek tract in Cape May County has been increased by 346 acres for a total of 1,508 acres.
8. The Beaver Swamp Grounds of 695 acres, on the headwaters of Sluice Creek, Dennis and Middle Townships, Cape May County, is a newly acquired Public Shooting and Fishing Ground.
9. The Colliers Mills tract, Ocean County, has been expanded by 1,552 acres for a total of 11,108 acres.
10. The Wanaque tract in Passaic County now totals 1,412 acres and offers grouse, squirrel, deer and some rabbit hunting.

Although all of these additional Public Hunting and Fishing Grounds are not yet fully developed and improved, they are open to sportsmen this fall. #

**A HANDY WHERE-TO-GO-GUIDE
FOR YOUR CONVENIENCE TO TAKE ON YOUR HUNTING
TRIPS, THESE EIGHT PAGES, STARTING WITH PAGE 17,
MAY BE PULLED FREE OF THE MAGAZINE.**

WATERFOWL GUNNING POSSIBILITIES

BRIGANTINE NATIONAL WILDLIFE REFUGE

The public hunting area for waterfowl on the Brigantine National Wildlife Refuge will be open again this year for licensed hunters of New Jersey.

The use of a portion of the Brigantine National Wildlife Refuge as a public hunting ground is also a cooperative venture between the Federal Wildlife Service and the State Division of Fish and Game. Operation of the area has been carried on for several years and as a result an excellent waterfowl hunting ground has been made available to the public of New Jersey.

Cooperation between the State Division of Fish and Game and the United States Fish and Wildlife Service extends to many other conservation ventures but the multiple use that has taken place on the Brigantine National Wildlife Refuge is considered to be an outstanding piece of cooperative work with mutual benefits to all concerned.

Further information concerning the use of the Brigantine Public Hunting Area can be secured from Brigantine National Wildlife Refuge, Refuge Manager, Absecon, N. J., or the New Jersey Division of Fish and Game, P.O. Box 1809, Trenton, New Jersey 08625.

Public Shooting Grounds Information

New Jersey hunters can now obtain information sheets on State-owned Public Shooting and Fishing Grounds from the Division of Fish and Game. Each sheet includes a map of major roads leading to a particular Public Shooting Ground. A general geographical description of the tract and specific directions for reaching it are given.

Major game and fish species found on each tract and their habitat are described. Habitat development programs, conducted by the Bureau of Wildlife Management to improve hunting opportunities, are outlined.

These guides have been prepared for the following Public Shooting Grounds managed by the Division of Fish and Game: Berkshire Valley, Clinton, Colliers Mills, Dennis Creek, Dix, Egg Island, Flatbrook, Glassboro, Greenwood Forest-Pasadena, Hainesville, Hamburg Mountain, Heislerville, Mad Horse Creek, Manchester, Millville, Port Republic, and Walpack.

There has been considerable demand for this kind of information. Many requests are expected during the current hunting seasons.

The fact sheets may be obtained at no cost by writing the Division of Fish and Game, Box 1809, Trenton 08625. #

We Never Had It So Good

By Captain Jack Randolph

I wrote outdoor columns for several shore weeklies and also conducted a hunting and fishing radio show out of Asbury Park. Recently, while home on leave, I've had an opportunity to review some of these old columns and, honestly, I can't believe that I wrote them. A dozen years of hunting and fishing in other states and in other countries have served to alter my viewpoint considerably.

One of my old columns was a bitter attack on increased license fees and salt water fishing licenses. I'm not very proud of this column now and I'd like to explain why.

Some Background

While growing up in New Jersey I have enjoyed nearly everything our outdoors has to offer. I hunted nearly every day of the season, upland game in western Monmouth County, deer and foxes in the pines, as well as ducks and geese on Barnegat Bay. My traplines extended from Forked River to Hightstown. In the spring I could be found along the trout streams of central or northern Jersey.

Later I would fish for bass in many of our lakes and, when I tired

of this, I'd be on the jetties seeking stripers or perhaps following the same sport from Ocean County beaches or in the rivers and on the canal. If nothing else was doing I'd turn to hunting for wild honey, soft crabbing, clamming, flounder or fluke fishing, frost fishing, or just woods roving looking for hunting and trapping prospects. Few have enjoyed Jersey's woodlands and waters more than I.

Later I earned a large part of my living directly or indirectly from Jersey's outdoors. Trapping was a source of income, soft crabbing paid off, I also did a little guiding for a small fee. As I grew older I became a deputy warden, went into the sporting goods business, and most of all began to write outdoor articles.

Travel

In 1951 I left Jersey to commence a career in the Army and I'm still in. The dozen years in the Army have taken me to many states and foreign countries where I have hunted and fished as much as off-duty time allowed. In Japan I hunted wild boar, deer, pheasants, bamboo partridge, and ducks.

Korea offered excellent pheasant and duck shooting as well as rare sport hunting the curious tusked deer. Germany was a hunter's paradise. The big game hunter could hunt roe deer, the huge red deer, chamois, and wild boar. The small game list includes hare, pheasants, rabbits, partridge, fox, ducks, woodcock, and doves.

The Fishing

Fishing in Korea was virtually non-existent. Japan had good trout and salmon fishing in the north but inland fishing in the south was poor. Off Kobe the salt water fishing was very poor and heavily overfished. Anglers would become excited over a one-pound tai or sea bream. There were some fish-for-pay trout ponds but they were very expensive.

Germany's streams offered fine trout and grayling fishing. Pike, walleye, and yellow perch were also available. Bavaria's lakes harbored fine trout and lake charr and the larger rivers held huchen, the mighty river charr that attains 50 pounds in weight.

The Cost

Of all of the foreign countries I visited Korea offered the cheapest sport but this was soon after the war and things were not yet organized. In Japan registration of guns with the police was mandatory and the hunting license sold for \$10.00.

Germany requires that a hunting license applicant attend a long hunting course before being issued a

license. This, by the way, is a wonderful experience and a very fine course. It includes firearm safety and marksmanship but it is much more thorough. Other subjects included in the course are a little ballistics, game habits, history of hunting in Germany, customs, traditions, laws, and wildlife management practices. The annual license fee is about \$11.00 plus \$4.00 for mandatory hunter's insurance.

In Germany

In Germany all game is owned by the landowner and the hunter must pay for the trophies killed. If he desires the carcass of the game he must pay for it at the established market price. If he does not want the animal, it will be sold on the game market. Small game must also be purchased. Pheasants average about \$1.50 each, hare \$2.50 etc. Nearly all hunts are controlled and hunters are under the direct supervision of the game master.

A fishing license is required in Germany and is available at a nominal fee of \$1.35, but all water is privately owned and an angler must buy a daily permit from the owner. The average daily permit on good trout water costs \$2.50 but I have paid as much as \$5.00. The number of anglers on a given stream was limited by law and averaged about an angler per mile. Needless to say it was difficult to secure permits for Sundays when we had the chance to fish. The daily creel limit averaged five fish and

. . . So Good

only artificial flies and spinning lures could be used.

I have just recently returned to Jersey from Germany and, while Germany was beautiful, the Germans very friendly and fine people, and the German hunting and fishing excellent, I still feel that here in heavily populated Jersey, I'm in a sportsman's heaven.

New Jersey

Since I'm on active duty I'm not required to buy a license, but for less than \$10.00 the average fellow could enjoy all of the outdoor sports. If I shoot a deer in season he's mine. I can fish nearly all of the state's lakes and streams without arranging for a permit weeks in advance. And the fishing! Just the other morning I caught a limit of bass and pickerel which I released for the next fellow. There are plenty of trout in the streams for a careful angler. Our salt waters are producing fine striped bass and bluefish action. Nearly everywhere you can hear the call of a bobwhite or a pheasant.

Sentiments

I can't help but admit amazement when I hear complaints about stocking or about the cost of licenses. I can't help but express disgust when I hear offshore anglers complain that they only caught 50 bluefish instead of 150. I can't help but admire the fellows who chase their fish with light tackle and get full enjoyment out of playing fewer fish longer. I can't help but marvel

at our game farms and fish hatcheries that can produce so much for so little. I can't help but wonder if even more could be accomplished if the resources were there.

More Room

The Green Acres project is helping to insure the future of our sports but there's more, lots more. As our numbers of anglers and hunters increase even more we are going to have to move over and make room. This can be done only if each of us tries his best to be a sportsman. Many of us are willing but some just don't know how—and sadly, it's not their fault.

Ethics

It is unfortunate that in this atomic age, the age of the spinning reel and glass barrelled guns, the age of automatic fish finders and outboards that start—that so little has been done to help the fellow who is new at the game to learn the rules. I mean not the laws, but the unwritten code of ethics that allows men to share a stream, a duck blind or a lake. The answer, of course, is in sportsman education.

Now most of us must learn these by the toughest method of all—that of trial and error but it seems to me that we can do better. Perhaps this is a good project for sportsman's clubs or maybe it should be a prerequisite for a license. This is only one writer's opinion. But the problem exists and it is ours—but so is the solution. I believe that we've never had it so good—but it could be better. #

Hunting Prospects Are Excellent

Signs point to a fine season for New Jersey hunters when the small game season opens on November 7.

Populations of major species "appear to be the best in a long, long time", according to George N. Alpaugh, Chief of the Bureau of Wildlife Management. He stressed that the best hunting will be found in areas where habitat is suitable for each species.

Native pheasant populations are excellent, Chief Alpaugh says. Hunterdon County contains some of the best pheasant country, with good habitat also found in parts of Somerset, Morris, south Sussex, south Warren, and Salem counties.

Pheasants and quail were in fine shape when stocked from the state game farms. Birds raised at the farms and by 4-H cooperators provide an important supplement to native populations on heavily-hunted Public Shooting Grounds and other lands open to hunting.

All 4-H pheasants and quail were banded before they were released. Hunters are asked to cooperate by sending in bands and information when they bag banded birds. They should mail information to the Trenton office of the Division of Fish and Game.

Quail populations are good in the area south of Trenton. Cape May and Atlantic counties are particularly high, and good numbers of bobwhites have been observed in Monmouth and Burlington counties.

Rabbits appear more numerous than at this time last year. Chief Alpaugh says that this increase is noted throughout the state.

Squirrels, too, seem to be more plentiful than last year. The animals are thriving on a good acorn crop in the state's hardwood forests.

The remarkable upswing in the grouse population seen in recent years is continuing. Grouse are increasing even in some southern New Jersey counties, although the largest numbers are to be found in Sussex, Warren, Morris, and parts of Hunterdon and Passaic counties.

Foxes round out the picture for hunters during the upland season. Both the grey fox and the popular red fox appear to be as plentiful as last year.

"I am confident that New Jersey sportsmen will find that excellent hunting opportunities await them when the season opens on November 7," Chief Alpaugh concluded. #

When you buy your Hunting License, remember to request a copy of the Compendium of New Jersey Game Laws for 1964

The Cottontail Rabbit

Species:

Sylvilagus floridanus mallurus.

General Characteristics:

Total length about 16 to 18 inches; tail length about $1\frac{3}{4}$ to $2\frac{1}{2}$ inches; hind foot length about 3 to $3\frac{1}{2}$ inches; weight about 2 to 3 pounds.

Dentition: $\frac{2-0-3-3}{1-0-2-3} = 28$

Range:

All of the State.

Life History:

The breeding season begins in February or March and continues to the end of August. Females commonly have two to as many as four litters per season. The number of young per litter varies from two to eight but averages about five. Usually only mature rabbits breed, but on occasion an early-born female will produce a late litter. The sex ratio of rabbits in the fall is approximately



The cottontail rabbit is the favorite small game mammal

43% female and 57% male. The young are born naked and blind and placed in a fur-lined nest. They remain in the nest about 12 to 14 days.

Environmental Resistance:

Weather—Cold Spring weather kills many early litters.

Precipitation—Heavy rains often kill young in the nest.

Predators—Great horned owl, red fox, mink, weasel, barred owl, marsh hawk, red-tailed hawk, red shouldered hawk, and crow.

Parasites—Fleas, ticks, bot fly larvae, "warbles", tape worms and tape worm cysts, several species of round worms, coccidia, and flat worms or flukes.

Diseases—No tularemia has been found in New Jersey in recent years in cottontails.

Farm Practices—Mowing kills many young rabbits; plowing and cultivating destroys many nests; but in general, the farm provides better food and cover conditions.

Hunting—The rabbit is the favorite of more sportsmen than any other small game mammal and is subjected to heavy hunting in New Jersey. On one study area in New Jersey, 60 to 75 rabbits were shot on one 100-acre area each year.

Management:

The best method of increasing the number of rabbits on any given area is to provide better food and cover conditions. Woods can be left ungrazed and even opened up by cutting some trees to provide light on the ground so that undergrowth can develop. Tall hedges or trees can be cut to provide brush piles or rows for shelter. Waste corners can be planted to provide food. The edges of fields and woods are important for rabbits and can be left unplowed to provide food and some cover.

The stocking of rabbits in New Jersey has been found to be of no help in increasing numbers of rabbits.

The food of rabbits consists of grasses, alfalfa, clover, grains, and leaves of many plants. In winter, bark, twigs and some roots are important foods.

Cover is provided by low, dense shrubs and trees, brush piles, thick hedgerows, and evergreen plantations.

Cottontail rabbit tracks



Commissioner Roe's Interest In Hunting and Fishing

Commissioner Robert A. Roe of the Department of Conservation and Economic Development is taking a keen interest in Garden State hunting and fishing. In the midst of administering one of the largest and most diversified State Departments, he has found time to inspect many Division installations and activities during his first months in office.

One of his earliest acts was to arrange a dinner meeting with the Fish and Game Council following one of their monthly meetings. This was soon followed by a complete tour of the Rockport State Game Farm, the Charles O. Hayford State Fish Hatchery, and construction at the new Pequest trout

rearing station. He was accompanied by Fish and Game Councilmen George McCloskey, James Charlesworth, and Joseph L. Alampi, Director Lester G. MacNamara, Fisheries Bureau Chief Robert A. Hayford, Game Farm Superintendent Duncan Buntain, Hatchery Superintendent Robert Williams, Construction and maintenance Supervisor J. Alfred Horner, and New Jersey's "Father of Fisheries Management," Charles O. Hayford.

Commissioner Roe took time after the dedication of Spruce Run Reservoir to visit the Clinton Public Shooting Grounds and the Fisheries Laboratory in Lebanon. He was accompanied by Director Mac-



At the Hatchery—from left to right, (front), Chief Hayford, Commissioner Roe, Director MacNamara, Superintendent Williams, Mr. Hayford, and Councilman McCloskey

*At the Rockport Farm—
from left to right,
Superintendent Buntain,
Councilman Charlesworth,
Director MacNamara,
Commissioner Roe,
Chief Alpaugh, and
Councilman McCloskey*



Namara, Chief Hayford, and Water Policy Director George Shanklin. He was particularly impressed by the water pollution laboratory, since he regards preservation of clean water as a major problem.

Pheasants in full plumage were seen at the Forked River State Game Farm on the occasion of the dedication of the new Residential Group Center at the game farm. The group center is a cooperative project of the Departments of Conservation and Economic Development and Institutions and Agencies in rehabilitation of youthful offenders.

Early last fall he joined the Fisheries Committee of the Council on a radio program about 1964 Fishing Laws. Before last deer season he met with the entire Conservation Officer force, encouraging them to continue vigorous enforcement of laws protecting fish and game resources.

Despite Commissioner Roe's tight schedule, Director MacNamara was able to take him on a short trip into Ocean County areas during deer season. He saw the site of a new 100-acre lake the Division is building with Federal Accelerated Public Works Funds, toured portions of the Colliers Mills Public Shooting Grounds, and had supper at the Roosevelt City Deer Camp of Trenton's Italian American Sportsmen's Club. He especially enjoyed the informal camaraderie of the gun club, and came away with the conclusion that New Jersey Sportsmen are "real people."

He has also visited many other sites of hunting and fishing activity during the past year. One of the highlights on the schedule was the dedication of the Pequest Hatchery on the opening of Trout Season, April 11. #

Fur, Fin ^{and} Campfire

By JACK SHERIDAN

PHEASANT TALK



IN THE EARLY MORNING, YOU MIGHT WATCH THE ROADWAYS, FOR PHEASANTS PICK UP BITS OF GRAVEL AT THAT TIME.

PHEASANTS
GO ABOUT
60 MILES
PER HOUR
AT TOP SPEED.
WHEN YOU'RE
SHOOTING
AIM
ACCORDINGLY.

GOOD PHEASANT COVER ARE HEDGEROWS BETWEEN FIELDS.

PHEASANTS FREEZE AND BLEND INTO THE FIELDS AS YOU WALK BY. THE BEST METHOD IS THE STOP AND GO, WITH A BIT OF NOISE.

MALES USUALLY HAVE A WHITE NECK RING AND BRILLIANT PLUMAGE; FEMALE IS BROWNISH. THEY FEED ON INSECTS, SEEDS, BERRIES.

While some of the best wild populations of pheasants are found in Hunterdon, Somerset, Mercer, and Middlesex Counties, almost all sections of the state where grain is grown support huntable numbers of birds.

Council Highlights

August Meeting

The open session of the regular monthly meeting of the Fish and Game Council was held in Trenton on August 11. In addition to the members of the Council and staff, the following persons were present: Robert Vreeland, Roy Williams, John Russack, Edwin Schuler, Robert Hawley, Bill Backus, and Al Toth.

Rail Bag Limits

In accordance with the provisions of the law and the announcement made to the public on July 19, a public hearing was held on the Council's proposal to reduce the clapper rail daily bag limit from 15 to 10 and the possession limit from 30 to 20.

Robert Hawley, U. S. Game Management Agent, pointed out that, due to a continuing loss of sora rail habitat and a decrease in sora rail populations, the Federal Government had reduced the daily bag limit on sora rails from 25 to 15, singly or in the aggregate with other species.

There were no objections to the regulations on clapper rail as proposed by the Council and the hearing was closed.

Fisheries Management

Chief Robert Hayford advised that he had nothing further to report other than what had already been sent to the Council in his monthly report. He advised that construction is under way on laying the 14-inch sewer line for the housing development near the Hacketts-town Hatchery and danger from contamination from this source will soon be eliminated.

Councilman Godown inquired whether there were any plans to continue with the establishment of the Pequest Rearing Station. Chief Hayford said present plans are to make a dirt pond below the reservoir but there are no plans to resume activities there from a construction standpoint, due to a lack of funds.

Colliers Mills Lake Weeds

Councilman Godown asked what the future plans of the Fisheries Bureau were for treating weeds at Colliers Mills Lake in view of the recent fish kill caused by the use of chemicals. She stated that fishing success there has fallen off drastically since the lake was treated.

Bruce Pyle stated that the first time Colliers Mills was treated was three years ago when it was clogged with weeds. After the initial

. . . Council Highlights

treatment it was opened up and reports were received that fishing was good. Councilman Godown felt that the treatment spread to parts of the lake where weed control was not necessary or desirable. Mr. Pyle was to investigate present conditions at the lake and make a report in the near future.

Wildlife Management

George Alpaugh, Chief of the Bureau of Wildlife Management, reported that the A.P.W. project for the construction of a parking lot and ramp at Tuckahoe was under way. He stated that through the Green Acres program we have received a 1500-acre tract of land at Colliers Mills.

He also reported that by the September meeting, maps and directions for each of the Public Hunting and Fishing Grounds should be available. Additional signs are being placed on Public Hunting Grounds which will identify them as lands purchased by sportsmen.

Mr. Alpaugh further reported that increased deer and raccoon damage complaints were being received, but this is normal during the growing season. Repellent and wire fencing material are available for distribution to persons suffering from deer damage. Reports from the field indicate that wildlife populations were very good at the time.

Councilman Godown inquired what results were being obtained from the mirrors placed on highways to deter deer from crossing the road. Mr. Alpaugh advised it will take two years before we can definitely determine the effectiveness of these mirrors.

Law Enforcement

In the absence of Chief Coffin, who was on vacation, Alfred Jones reported that during July 15 Conservation Officers completed their vacations, two men were on sick leave, and the men worked a total of 6,149 hours, 3,488 of which were spent patrolling and the remainder for administration and other duties. There were 121 deer killed accidentally and under permits during July. Thirty-eight bucks and 74 does were killed accidentally and reported, 3 bucks and 5 does were killed under permit, and one doe was killed illegally.

Coastal Patrol

Newman Mathis, Chief of the Coastal Patrol, reported that trawling activity was light during July because of the scarcity of fluke. On the other hand, hook and line fishermen enjoyed some excellent fishing in some of the rivers.

Problems with trawlers continued in Raritan Bay. Captain Mathis

stated that many of these violators will deliberately cut loose their nets to avoid arrest. Also, many of them operate very small speed boats, devoid of any marking or identification, which are almost impossible to apprehend with our large patrol boats. Our request to equip the *Harriet H* with radio has met with delay and this has further inhibited our patrol activities.

Captain Mathis stated that many times people report observing small boats operating trawls because they see two lines being towed from the boat. He personally checked in the area and found that many of these small boats with two lines are hauling a clamming rig and not a trawl.

He stated that a seiner, recently apprehended in Raritan Bay, had made a set a mile off the beach and was baling bluefish when apprehended. The apprehending officer took his boat and seine with the bluefish in tow and someone cut the tow line, causing the rope to become entangled in the wheel of the *Harriet H*. Additional charges will be placed against the violator.

Public Relations

Jules Marron, Supervisor of Public Relations, reported that his unit had cooperated in the Boy Scout Jamboree recently held at Valley Forge, Pa. The conservation theme depicted three 10-acre plots on "Conservation, Your Community and You" and dealt with all avenues of conservation from marshlands and upland to the ocean front, and also referred to pollution.

Mr. Marron further reported that construction of the I & E building at the hatchery grounds is proceeding at a good rate and within a month or two should be ready for occupancy. He also stated that the exhibit this year for the county fairs will deal with pollution, showing the effects of pollution from inland to the ocean.

Special Deer License

Mrs. Helen Musick displayed the license and deer tags which will be in use for the special one-day deer season on December 19. Through the excellent cooperation of the Division of Motor Vehicles, progress was being made in developing the process of selecting the successful applicants by IBM machine.

A. C. Expressway Deer Crossings

Councilman Alampi called attention to the danger from deer crossings that could exist to motorists on the new Atlantic City Expressway because it is not fenced in the portion that crosses the Winslow

. . . Council Highlights

Public Hunting and Fishing Grounds. Chairman Hart explained that we had endeavored to have the Highway Department fence the roadway but our efforts met with no success.

Double Trouble Land

Councilman Godown suggested that consideration be given to the acquisition of land in Ocean County, in the vicinity of Double Trouble, which contains one of the few remaining clear and unpolluted streams in New Jersey.

Al Toth

Al Toth, recently elected Corresponding Secretary of the State Federation of Sportsmen's Clubs, was introduced to the Council. He reported the Federation was pleased with the action of the Council in regard to pollution. He requested that, when new committees are appointed on the Council, the Pollution Committee of the Council arrange a meeting with the Pollution Committee of the Federation.

Pomona Depot Deer

Robert Vreeland inquired what action had been taken in regard to reducing the deer herd at the Pomona Depot. Councilman Alampi advised that a careful investigation revealed that there were not nearly as many deer present on the area as had been presumed and it was not necessary to take any action to reduce the deer population. #

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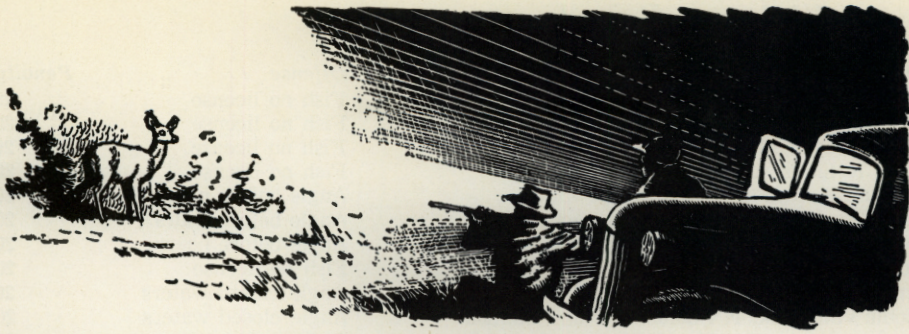
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Violators Roundup

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
Frank Wright, 212 Valley Road, Montclair	Angle bait closed waters	20
Clarence M. Sutton, R.D. No. 4, Bridgeton	Fish no license	20
John H. Hitchner, S. Main St., Fairton, Bridgeton	Fish no license	20
John R. Vickers, 421 W. Broad St., Bridgeton	Fish no license	20
Robert M. Cole, R.D. No. 4, Bridgeton	Fish no license	20
Frank Farinelli, R.D. No. 4, Bridgeton	Fish no license	20
Donato Longano, 141 Bonnaville Ave., Roselle	Fish no license	20
Joseph Comglario, 141 Bonnaville Ave., Roselle	Fish no license	20
Ronald E. Weeks, 1611 A.T.S. Box 641, McGuire A.F.B.	Use set lines	20
Bruce L. Kuenle, Hdqs. Co. 5th Training Reg., Fort Dix	Fish no license	20
George H. Dennis, 522 Linden Ave., Burlington	Short bass	20
Sumiko Y. Johnson, 3306 A Nelson Court, Fort Dix	Fish no license	20
Louis A. Gerbereuv, Noble St., Mauricetown	Fish no license	20
Peter O'Such, 12 Karcher St., Sayreville	2 trout over limit	40
George W. Smith, Jr., 3031 S. 23rd St., Phila., Pa.	Fish no license	20
John E. Ahern, 175 Third St., Elizabeth	Fish no license	20
Walter Louis, Woodstown Daretown Rd., R.D. Elmer	Fish no license	20
Louis A. Gerbereux, Noble St., Mauricetown	Netting fish closed hours	100
Kirk E. Gerbereaux, Buckshootum Rd., Mauricetown	Netting fish closed hours	100
Leonard J. Seifried, Buckshootum Rd., Mauricetown	Fish no license	20
Ralph H. Stockhouse, 321 Evesham Road, Runnemedede	Attempt to take fish illegally	20
Wolfgang Mueller, 340 Paterson Plank Rd., Jersey City	Fish no license	20
Nicholas J. Ritt, 2846 Leithgow St., Phila., Pa.	Fish no license	20
Miranda J. Robbins, 1176 Fairmont Ave., Vineland	Fish no license	20
David A. DeBlauw, Box No 1, U.S.N.A.U., Johnsville, Pa.	Fish no license	20
Mandro E. Armstrong, Belleplain Road, Delmont	Fish no license	20
Edward Bartkus, 216 N. 2nd St., Harrison	Angle bait closed waters	20
Harry Simon, 644 Lafayette Ave., Hawthorne	Excess bag limit	20
Joseph Hinton, Jr., 811 N. 16th St., Phila., Pa.	Fish no license	20
Frank R. Schultz, 1010 Line St., Camden	Fish no license	20
Richard Eustis, 202 So. 10th St., Newark	Fish closed waters	20
Lester L. Bright, 506 Bem St., Riverside	Illegal firearm	20
Chester Ader, R.D., Long Valley	Fish closed waters	20
A. E. Dawson, 165 Hickory Tavern Rd., Long Valley	Fish closed waters	20
Stanley Kurzawa, 417 Hill St., Harrison	Short pickerel	20
Joseph J. Petescia, 938 Johnson Pl., Union	Illegal fishing fly waters	20
Norman Hammer, 198 Brook Ave., No. Plainfield	Fish closed waters	20
Ronald Gryskewicz, 91C Brookdale Gardens, Bloomfield	Angle before hours	20
Donald D. Notive, 185 - 70th St., Brooklyn, N. Y.	Fish no license	20
Charles Teabo, Glenwood Rd., Hamburg	Uncased weapon	Jail

. . . Violators Roundup

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
Ernest Best, Jr., 2150 Stewart St., Phila., Pa.	Fish no license	20
John W. Wylupek, 222 Morse St., Camden	Fish no license	20
Henry Devoe, 2103 W. Diamond St., Phila., Pa.	Fish no license	20
Gary K. Slade, 33 Chester Ave., Newark	Fish no license	20
William Raney, 75 - 16th Ave., Newark	Angle before hours	20
Sam Laird, 12 Struyk Ave., Prospect Park	Angle before hours	20
Joseph Bruno, 37 Park Ave., Lincoln Park	Angle before hours	20
Joseph T. Wilk, 49 Jefferson St., Passaic	Fish no license	20
Andrew Kinney, North Church Rd., Hamburg	Angle closed waters	20
Robin Van Dunk, 44-4 Colonial Ave., Paterson	Angle closed waters	20
Perfeto Quintas, 508 New York Ave., Union City	Fish no license	20
Richard Vedsted, 12 Orchard St., Little Falls	Fish no license	20
John Smarz, 24 Jackson St., Paterson	Angle closed waters	20
Louis E. Romanek, 106 Belle Ave., Maywood	Angle closed waters	20
Earl Johnson, 30 E. Main St., Paterson	Angle closed waters	20
George C. Calloway, 344½ S. 12th St., Newark	Fish no license	20
Roger M. Leonard, 81 Bloomfield Ave., Newark	Angle closed waters	20
Daniel Ventre, 181 Sherwood Ave., Paterson	Angle closed waters	20
Robert Weaver, R.D. 1, Hackettstown	Fish no license	20
Gary M. Benke, 780 Oxford St., Belvidere	Fish no license	20
Mihaly Sas, R.D. No. 3, Newton	Loaded gun in vehicle	20
Mihaly Sas, R.D. No. 3, Newton	Uncased gun	100
Anthony Calanazi, 3 Parnell Pl., Jersey City	Angle closed waters	20
Edward Slegers, 20 Academy Road, Morris Plains	Fish no license	20
Larry F. Helton, Mountain Ave., Montville	Fish no license	20
Leonard R. Dickerson, 81 Waterloo Rd., Berwyn, Pa.	Fish no license	20
Richard J. Scialpi, 175 Westervelt Ave., Hawthorne	Fish no license	20
James Desmet, 295 Lafayette Ave., Hawthorne	Angle closed waters	20
Jerome Reddick, 773 Chestnut St., Camden	Fish no license	20
Wallace Vann, Sr., 837 Broadway, Camden	Fish no license	20
Raymond Gran, 1116 Drake Ave., Roselle	Fish no license	20
Alexander L. Bell, 327 Morris Ave., Springfield	Failure to show license	20
Charles W. Zulker, 210 North Lenola Rd., Moorestown	Illegal poss. raccoon	20
Vesta Lee Richardson, 4805 Leiper St., Phila., Pa.	Fish no license non-resident	20
Russell Woodworth, Prospect Road, Wharton	Fish no license resident	20
Marvin Hatley, 97 Bergen Ave., Haskell	Poss. swan	20
Paul D. Brown, 126 Schley St., Newark	Fish no license	20
Benjamin V. Dall, 36 Grand Ave., Washington	Fish closed waters	20
James Whitcraft, Main St., Juliustown	Illegal poss. raccoon	20
Paul H. Roselle, 6 Porreca Dr., Millville	Fish no license	20
Steve J. Matias, 417 N. 5th St., Millville	Fish no license	20
Lorenzo T. Lore, 41 S. Main St., Cedarville	Spear gun for fishing	20
Robert Farmer, 1126 S. Front St., Phila., Pa.	Fish no license	20
King Johnson, 65 Pine St., Bridgeton	Fish no license	20
George L. Berry, 70 Cedar Avenue, Fair Haven	Dog at large	20
John L. Berry, 94 Maple Ave., Fair Haven	Dog at large	20
John Berthelat, Apt. A3 Cedar Ave., Paulsboro	Fish no license	20

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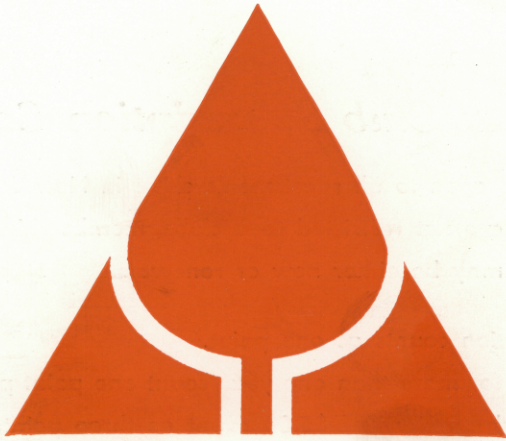
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