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SURVEY OF FISHING IN 1000 PONDS IN 1959

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Branch of Fishery Management Services

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UNITED STATES DEPARTMENT OF THE INTERIOR
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BUREAU OF SPORT FISHERIES AND WILDLIFE
Circular 86

UNITED STATES DEPARTMENT OF THE INTERIOR,
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FISH AND WILDLIFE SERVICE,
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A SURVEY OF FISHING, IN 1959, IN 1,000 PONDS STOCKED BY THE BUREAU OF SPORT FISHERIES AND WILDLIFE

Conducted by the Branches of Fish Hatcheries
and Fishery Management Services

Reported by
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SUMMARY

The program of stocking farm and ranch ponds with fish produced at the national fish hatcheries was evaluated in January 1960 by a survey of 1,000 ponds. This sample, which was randomly chosen, represents 1/40th of the number of ponds stocked in 1957 by the Bureau of Sport Fisheries and Wildlife with bass, bluegill, redear sunfish and catfishes. A questionnaire, approved by the Bureau of the Budget, was employed in 25 States in connection with personal interviews of pond owners or managers by fishery biologists and hatchery personnel.

Pond owners reported that their principal reasons for building the ponds were to provide water for livestock (80 percent) and fishing (70 percent). Of those persons fishing the ponds, 52 percent were men, 23 percent women, and 25 percent children. Eighty-two percent of the ponds were described as providing excellent or satisfactory fishing. Ponds provided fishing in 1959 at the rate of 64 fisherman-days per acre. Bass and bluegill were the principal species, with an average catch of 54 bass and 276 bluegill and other sunfish per acre. Catfish, including bullheads, contributed to the fishing in 20 percent of the ponds.

Twenty-one percent of the pond owners had added fish on their own, and 30 percent of the ponds contained wild fish. In ponds where fishing was unsatisfactory, too many small bluegills, muddy water, and presence of wild fish were the reasons most commonly advanced.

Conservation programs of the Department of Agriculture provided financial assistance to 71 percent of the pond owners toward the costs of constructing the ponds; 84 percent reported they had received technical guidance from the Soil Conservation Service.

Assuming a productive life of at least 5 years, and projecting the findings on 1,000 ponds to all ponds stocked by the Bureau, from 1953 to 1957, it is estimated that more than 20 million man-days of fishing were provided to at least 5 million persons in 1959, as a result of this program.

These anglers are estimated to be 25 percent of all persons fishing in fresh water that year, and to have exerted 5 percent of the fishing effort. The cost to the Government for the fish stocked in the ponds was under 5 cents for each man-day of fishing provided. It must be concluded that providing fish from our national fish hatcheries to stock farm and ranch ponds is making a substantial contribution to the recreation of a large segment of our people, and at a relatively low cost.

FIGURE 1.--Largemouth bass caught from a pond about 2 years after stocking.

A SURVEY OF FISHING, IN 1959, IN 1,000 PONDS STOCKED BY THE BUREAU OF SPORT FISHERIES AND WILDLIFE

BY

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PURPOSE OF THE SURVEY

The survey was conducted to answer the frequently asked question: How much recreational fishing are our national fish hatcheries furnishing by providing warm-water fish to stock farm and ranch ponds? An early answer to this question, which previously had been answered by generalities or by information gathered in surveys of limited scope, was desired.

Since World War II, the Fish and Wildlife Service has provided warm-water fish (bass, sunfish and catfish) to stock from 30,000 to 40,000 ponds annually. Bureau records for 1957, which was taken as the key year, show that 43,720,912 bass and sunfish, 1,015,698 channel catfish and bullheads stocked in ponds, or a total of 44,737,610 fish, were consigned to the pond program. This total represents about two-thirds of the largemouth bass, bluegill, redear sunfish, and all of the catfish produced at the Bureau's warm-water fish hatcheries that year. The present survey was designed to provide a better understanding of the values of the program.

PLAN OF THE SURVEY

The round figure of 1,000 was chosen as the number of ponds that could be covered in the time available for the survey and still constitute a reliable sample. This number of ponds represented 1 in 40, or 2.5 percent of all ponds stocked with warm-water fish from the Federal hatcheries in fiscal year 1956-57. The sample appeared adequate for the purpose of obtaining the desired information, providing the ponds were randomly selected.

In planning the survey, decision was made to include only ponds from .5 to 10 acres in size. Ponds smaller than .5 acre are not regularly stocked in all regions, and are reported in the survey

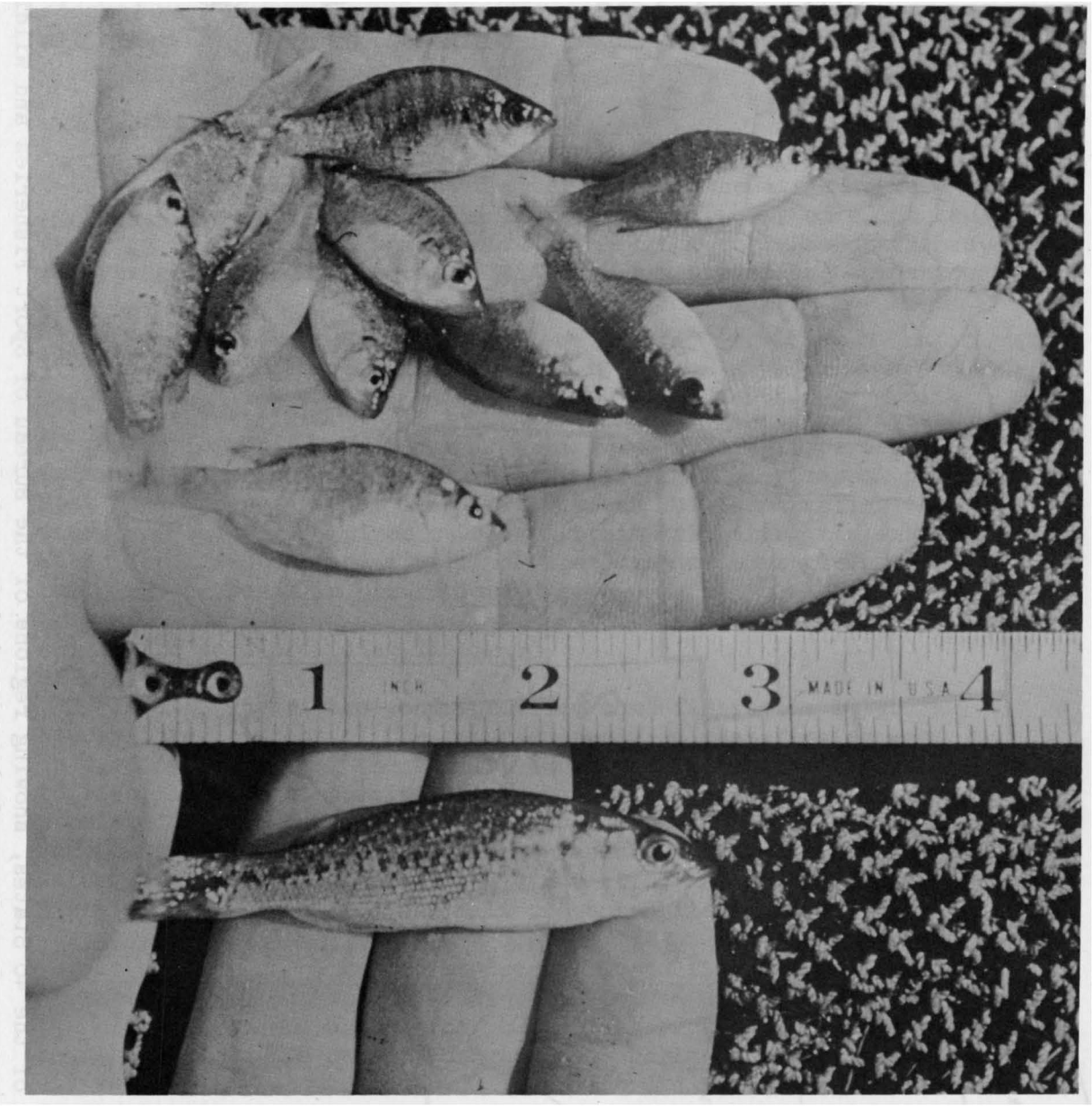
only from the States of Illinois, Indiana and Iowa. This may have produced some bias in the returns. Moorman (1956) found in a study of 60 ponds in Iowa, that ponds less than 0.5 acre were usually less successful than ponds between 0.5 and 1.0 acre. Swingle (1949) reported that unfertilized ponds of less than 0.5 acre and fertilized ponds of less than 0.25 acre are too small to insure good results with the bass-bluegill combination.

Ponds stocked with bass in the spring of 1957 were employed in the survey because these ponds would experience their first full year of fishing in 1959. In northernmost latitudes, a few ponds stocked in 1956 were used so that the fish in all ponds would have had sufficient time to reach a size permitting angling. Nearly all the ponds had received bluegill prior to the introduction of the bass. In the Southeast, redear sunfish are stocked in combination with bluegill, and channel catfish were stocked in 155 ponds in the Southwest. Fish were provided on the basis of a completed application, which had been reviewed in most instances by the local SCS representative, and approved by State conservation officials, as well as by the Bureau. The fish were stocked as small fingerlings. The rate of stocking varied: bass at rates from 50 to 100 per acre and bluegill (including redear sunfish) at rates from 100 to 1,000 per acre.

Four regional offices of the Bureau, located at Albuquerque, Atlanta, Boston, and Minneapolis, were each assigned a number of ponds to report, based on the number of applications for warm-water fish which were filled by them in 1957. The States of the Pacific Coast and the more northern States were omitted, because of the small number of ponds stocked with warm-water species and the difficulties of midwinter travel. In all, 25 States were included in the survey.

Ponds were chosen on a systematized basis, with the interval derived from the ratio between the total number of applications for bass filled in 1957, divided by the number of reports desired. Within this interval the first pond was selected at random, with subsequent ponds chosen systematically. This method was followed with few exceptions.

A list of alternate ponds, chosen in the same manner, was also prepared in each regional office, so that should it be impossible to obtain a report on a particular pond, an alternate chosen in the same manner could be substituted. As field work on the survey was conducted during the month of January, conditions of weather and rural roads made this feature necessary. Alternate ponds made up approximately 10 percent of the sample.



stocked in ponds.

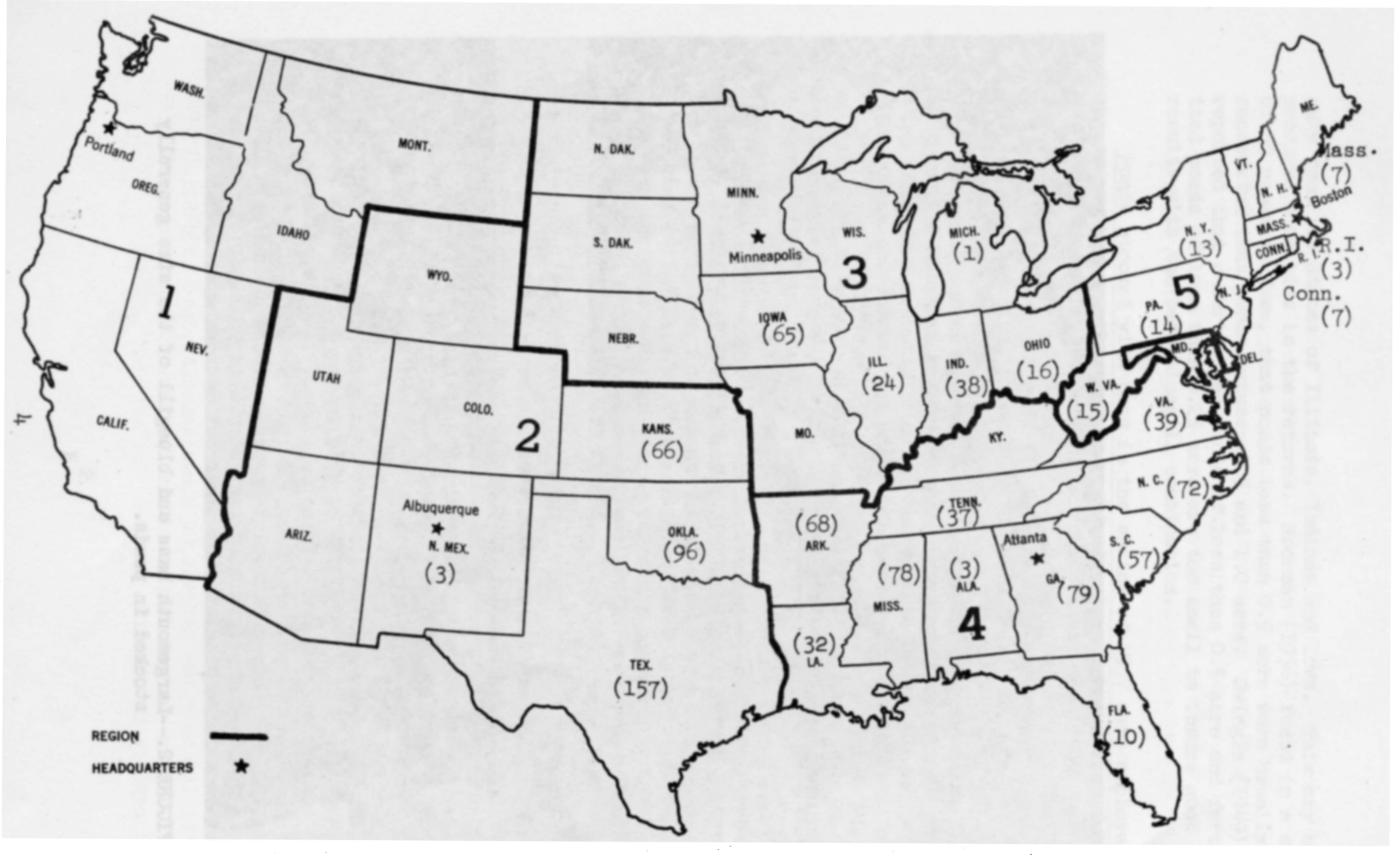


FIGURE 3.--Map of the 48 States, showing regions of the Bureau of Sport Fisheries and Wildlife, with the number of ponds sampled designated in each State.

The project was carried out as a joint undertaking of the Branches of Fish Hatcheries and Fishery Management Services. Hatchery managers and their assistants, hatchery production biologists, fishery management biologists, and other fishery personnel of the Bureau cooperated in the survey by conducting personal interviews with pond owners and farm managers. General instructions were provided all those making interviews, and a single form (Budget Bureau No. 42-5923) was used. The name of the pond owners, his address, acreage of the pond, and the fish stocked were entered on the form in advance of the interview; all other data were recorded in the presence of the pond owner or manager.

FINDINGS OF THE SURVEY

Findings will be presented under numbered headings corresponding to the questions on the interview form, copy of which is included at the end of this report. The 1,000 ponds reported had an average area of 1.7 acres. Data from the survey are summarized in Table 1.

(1) Purposes served by the ponds

These were reported to be, to the nearest percent: livestock, 80 percent; fishing, 70 percent; irrigation water, 13 percent; swimming, 9 percent; wildlife, 5 percent; other purposes, 4 percent. Most pond owners gave at least two reasons for constructing the pond, and these were given equal weight in tabulating the answers. Water for livestock and fishing dominate the reasons given for building the ponds in all regions.

(2) Is the pond providing fishing?

In all, 958 of the ponds provided some fishing in 1959. Ninety three percent of the reports specified that fishing was enjoyed by members of the family; 83 percent permitted friends to fish; 19 percent permitted tenants to fish; and 10 percent permitted others to fish. Of those who reported no fishing (42 ponds out of 1,000), 22 gave no reason, 7 claimed loss of water, 5 that the fish died, 5 did not allow any fishing, and 3 claimed that heavy mud and silt prevented fishing.

(3) Is permission required for the public to fish the pond?

In reply to this question, 82 percent of the owners said they required permission before allowing the public to fish; 13 percent did not require permission; and 5 percent did not answer. This does not indicate the percent of ponds actually open to public fishing, which was not determined in the survey, except as indicated in the replies to question No. 2.

(4) Amount of fishing provided

The 958 pond owners who reported some fishing in their ponds estimated that a total of 27,246 persons participated in this popular form of recreation. Thus, the typical pond was fished by 28 persons during its first year of productive fishing. Since the ponds averaged 1.72 acres, this gives an estimate of 16 fishermen per acre of pond. Of the anglers, 52 percent were men; 23 percent were women; and 25 percent were children (15 years and less). The percent of women and children is higher for pond fishing than is generally reported for public waters. This suggests unique values of pond fishing which may be related to closeness to home, greater safety, and possible lower cost of pond fishing.

The estimate of 103,854 fisherman-days provided by the 1,000 ponds surveyed is subject to limited interpretation since accurate records were not available. The 958 ponds provided fishing in 1959 at the rate of 108 fisherman-days per pond, or 64 fisherman-days per acre of water.

The 1955 National Survey of Fishing and Hunting revealed that the typical fisherman fished 9.5 days per year. Since the present study showed that 4 fisherman-days per angler was typical in farm ponds, the importance of this type of fishing for those enjoying it is quite substantial. The over-all importance of fishing in ponds stocked by the Bureau of Sport Fisheries and Wildlife is presented later in this report.

(5) Catch of fish

While only 13 pond owners reported that they kept accurate records of the fish taken from their ponds, 893 gave estimates of the catch. The catch from 824 ponds reporting largemouth bass taken, averaged 54 bass per acre. This is a high return, considering that the bass were stocked as small fingerlings and at rates varying from 50 to 100 per acre. If all ponds reporting fishing are included, the catch of bass still remains high at 46 per acre.

The catch of bluegill and other sunfish from 789 ponds averaged 276 fish per acre. Prorated on a basis of the 958 ponds providing some fishing, the catch was 228 of these fish per acre. The percent return is lower than for the bass, possibly for several reasons: some of the bluegill were eaten by the bass as forage; bluegill and other sunfish are not as highly prized by the angler and there is less fishing pressure for them; they may not have reached a desirable size by the first year of fishing.

Only 210 ponds reported "Other" fish taken. Most of these were catfish, principally channel catfish and bullheads. Replies on "size most frequently caught" were not suitable for tabulation or analysis.

(6) Quality of fishing

The owner's evaluation of the quality of fishing afforded is one of the most significant features of the survey. Three categories were proposed: excellent, satisfactory, and poor. On the basis of the entire sample, 20.2 percent considered fishing to be excellent, 61.4 percent satisfactory, and 14.2 percent poor. The standard was the owner's opinion and was relative to the quality of fishing available in the local community. This evaluation is encouraging and indicates a level of success approaching 82 percent achieved in the farm pond program.

Some information on the reasons why 14 percent of the ponds were providing poor or unsatisfactory fishing was obtained. "Too many small bluegills" was the most common complaint. Excessive mud and silt ranked second. The presence of wild fish was mentioned frequently, although wild fish were also reported from many ponds providing satisfactory fishing. An interesting reason was given by 11 of the unhappy pond owners - "Too little fishing." This might be credited to the presence of other waters with better fishing in the neighborhood. (See Table 3 for other reasons given.)

Aquatic weeds were a problem in only three ponds, probably reflecting the youth of the ponds and the relatively high standards followed in pond location and construction.

(7) Condition of hatchery fish

Apparently, the fish were received from the hatcheries in good condition; at least 99 percent of the pond owners thought so. This reflects the care given to the small fish in distribution by hatchery personnel. Likewise, 97 percent of the pond owners believed the hatchery fish survived following their release in the pond. Undoubtedly, observations on this feature were not always possible or complete.

(8) Stocking of other fish

Returns showed that 21 percent of the 1,000 pond owners contacted had added fish to the pond, in addition to the stocking provided by the Federal Government. A few of these obtained the normal allotment of bluegill from another source; some stocked catfish or crappie from outside sources; but most were supplied by the generosity of friends and the pond owners' efforts. Fishery managers discourage indiscriminate stocking at every opportunity, yet it appears to be a common practice. The results of overstocking are not well understood by many pond owners.

TABLE 1.--Summary of Survey Returns

Item	Number Reported	Percent
Ponds reported	1,000	
1. Purposes of ponds:		
Livestock water	804	80.4
Fishing	695	69.5
Irrigation	134	13.4
Swimming	86	8.6
Wildlife	46	4.6
Other	38	3.8
2. Is the pond providing fishing?		
Yes (all levels)	958	95.8
For family	894	93.3
For friends	792	82.7
For tenants	179	18.7
For others	93	9.7
None	42	4.2
3. Permission required for public to fish:	822	82.2
Permission not required	133	13.3
Not reported	45	4.5
4. Amount of fishing in 1959:		
Total fisherman-days	103,854	100.0
Days per pond*	108	-
Days per acre*	64	-
Number of persons:		
Men	13,688	51.9
Women	6,095	23.1
Children	6,615	25.0
Designated persons	26,398	96.9
Not designated	848	3.1
Total fishermen	27,246	100.0
Fishermen per pond*	28	-
Fishermen per acre*	16	-

*In ponds reporting fishing.

TABLE 1.--Summary of Survey Returns (Continued)

Item	Number of Fish	Number of Ponds	Catch per Acre
5. Catch of fish reported in 1959:			
Bass	75,431	824	54
Sunfish	370,794	789	276
Catfish and others	19,621	210	55
For all ponds reporting fishing	465,846	958	286

Item	Number of Ponds	Percent of Ponds Reporting
6. Quality of fishing:	1,000	100.0
Excellent	202	20.2
Satisfactory	614	61.4
Poor	142	14.2
None	42	4.2
7. Hatchery fish received in good condition:	990	99.0
Believe they survived	969	96.9
8. Additional stocking:	211	21.1
Source:		
Private	177	-
State	19	-
Commercial	11	-
Not reported	4	-
Wild fish present	295	29.5
9. Assistance received from Federal Government:		
Financial	715	71.5
Technical	853	85.3

Catfish, especially channel catfish, appear a desirable addition under some conditions and were reported in 200 of the ponds surveyed.

Wild fish were reported from about 30 percent of the sample. More information on the species and numbers present would be necessary for proper evaluation of the importance of wild fish in the ponds surveyed. In 55 of the 142 ponds reporting poor fishing, wild fish were also reported present.

(9) Assistance in pond construction

A total of 715 out of 1,000 pond owners received some financial assistance from the U. S. Department of Agriculture in building their ponds. The nature of this assistance and the agency from which it was received were not adequately described for purposes of analysis. Technical assistance had been received by 85 percent of the sample, with the Soil Conservation Service providing this in 84 percent of the instances.

REGIONAL HIGHLIGHTS

Since the size of each regional sample was proportional to the number of ponds stocked with bass in that region in 1957, some comparisons of findings can be made among regions.

Although fishing rated high as a purpose for building ponds in the Southwest, that region reported only about half the number of man-days of fishing per acre that the other regions reported. This is probably related to differences in population density and accessibility of the ponds.

The percentage of women anglers was lowest in the Northeast and highest in the Southeast. On the other hand, children made up 47 percent of pond anglers in the Northeast, as against 22 percent in the Southeast.

The catch of bass was considerably higher in the southern than in the northern regions. Region 4 led in the catch per acre for both bass and sunfish. The quality of fishing, which was rated satisfactory or better, varied by region, as follows: Region 2, 89 percent; Region 3, 72 percent; Region 4, 79 percent; Region 5, 77 percent.

Holloway (1951), after examining records on 612 ponds in the Southeast, concluded that one pond out of three had a successful balance of bass-bluegills. However, many of the ponds not in "balance" were providing some fishing, which was not reported, so the conclusions of the two studies are not comparable.

Only 51 percent of the pond owners sampled in the Northeast accepted financial support from the Federal Government in building the ponds, as compared with 72 percent in the entire sample. Since the Northeast had the smallest sample, this and other differences from other regions may be more apparent than real.

MANAGEMENT IMPLICATIONS

It was not possible to obtain information on fish populations in the ponds surveyed, because of the season of the year and the time available for the survey. Consequently, no attempt has been made to correlate fisherman-use and success with the stocking rate, or the kind, number, and condition of fish in the ponds. Accurate records were kept by a discouragingly small number of pond owners, but most owners were willing to give estimates of use.

A brief comparison of fisherman-use in the ponds surveyed with other published accounts is of general interest. The present survey found 64 man-days of fishing per acre, including all ponds providing any fishing. Byrd (1959) reported that 12 of Alabama's highly managed State lakes supported 162 fishing trips per acre annually (range 89-242). These "lakes" had a combined area of 841 acres and had been open to public fishing 2 to 8 years. Bennett (1952) indicated a scarcity of data on the subject, but proposed an average fishing pressure of less than 100 man-hours per acre per season on Illinois ponds.

Barnikol and Campbell (1952) in reporting on 7 small impoundments on the August A. Busch Memorial Wildlife Area in Missouri, studied in 1951, list man-hours of fishing varying from 346 to 2,196 per acre. Bennett, Barnikol and Campbell do not report the average number of hours per fishing trip.

The Bulletin of the Sport Fishing Institute for May 1959 refers to other reports of fishing pressure. Estimates made at 9 Texas reservoirs by the U. S. Corps of Engineers showed 65 fisherman days per acre in 1958. In Oklahoma's Fort Gibson reservoir, 31 fishing trips per acre were reported the same year.

Interviewers were interested in seeing evidence of good management, or its opposite, and frequently included pertinent notes. When fertilization was mentioned, the adjective noted was usually "inadequate." Too many pond owners could not resist the temptation to add more fish to the pond than the Government recommended and provided. This, coupled with insufficient fertilization, frequently spelled poor growth and poor fishing.

It was found that wild fish were present in 30 percent of the ponds, indicating that eradication of existing fish is not always carried out successfully before the new pond is stocked, or the fish may enter later.

An item of interest is the high catch of bass, 54 per acre, during the first year of fishing. Since it will be from 1 to 3 years before a new crop of bass is produced and is available to the angler,

TABLE 2.--Summary of Survey Returns by Regions

	Region 2		Region 3		Region 4		Region 5	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
Ponds reported	322	-	144	-	475	-	59	-
Average acreage	1.9	-	0.9	-	1.9	-	0.9	-
1. Purposes of ponds:								
Livestock water	306	95.0	122	84.7	347	73.0	29	49.1
Irrigation	13	4.0	4	2.8	101	21.2	16	27.1
Fishing	241	74.8	94	65.3	318	66.9	42	71.2
Wildlife	26	8.1	6	4.1	7	1.5	7	11.9
Swimming	18	5.1	22	15.3	26	5.5	20	33.9
Other	9	2.8	12	8.3	28	5.9	9	15.2
2. Is the pond providing fishing?								
Yes (all levels)	316	98.1	127	88.2	464	97.7	51	86.4
For family	300	94.9	111	87.4	433	93.3	50	98.0
For friends	265	83.9	107	84.3	385	83.0	35	68.6
For tenants	45	14.2	4	3.1	124	26.7	6	12.0
For others	30	9.5	9	7.1	42	9.1	12	23.5
None	6	1.9	17	11.8	11	2.3	8	13.6
3. Permission required for public to fish:	263	81.7	126	87.5	392	82.5	41	69.5
Permission not required	47	14.6	9	6.2	63	13.2	14	23.7
Not reported	12	3.7	9	6.2	20	4.2	4	6.8
4. Amount of fishing in 1959:								
Total fisherman-days	22,667	-	9,196	-	67,401	-	4,590	-
Days per pond	72	-	72	-	145	-	90	-
Days per acre	37	-	70	-	73	-	89	-
Number of persons:								
Men	4,183	54.4	1,312	51.5	7,282	51.9	911	42.8
Women	1,742	22.6	481	18.9	3,653	26.0	219	10.3
Children	1,763	22.9	753	29.6	3,101	22.0	998	46.9
Designated persons	7,688	93.9	2,546	100.0	14,036	97.7	2,128	98.8
Not designated	500	6.1	0	0.0	323	2.2	25	1.1
Total fishermen	8,188	100.0	2,546	100.0	14,359	100.0	2,153	100.0
Fishermen per pond	25	-	18	-	30	-	36	-
Fishermen per acre	13	-	19	-	15	-	42	-

TABLE 2.--Summary of Survey Returns by Regions (Continued)

Item	Region 2 Number of Ponds	Region 2 Catch Total	Region 2 Catch Per Acre	Region 3 Number of Ponds	Region 3 Catch Total	Region 3 Catch Per Acre	Region 4 Number of Ponds	Region 4 Catch Total	Region 4 Catch Per Acre	Region 5 Number of Ponds	Region 5 Catch Total	Region 5 Catch Per Acre
5. Catch of fish reported in 1959:												
Bass	288	27,405	50	110	2,780	28	393	44,082	59	33	1,164	39
Sunfish	251	48,823	102	102	20,044	218	397	295,838	391	39	6,089	173
Catfish and others	140	7,456	28	17	5,243	343	45	6,302	74	8	620	86
For all ponds reporting fishing		83,684			28,067			346,222			7,873	

Item	Region 2 Number of Ponds	Region 2 Percent of Ponds Reporting	Region 3 Number of Ponds	Region 3 Percent of Ponds Reporting	Region 4 Number of Ponds	Region 4 Percent of Ponds Reporting	Region 5 Number of Ponds	Region 5 Percent of Ponds Reporting
6. Quality of fishing:	322	100	144	100	475	100	59	100
Excellent	82	25	24	17	78	16	18	30
Satisfactory	207	64	80	55	299	63	28	47
Poor	27	8	23	16	87	18	5	8
None	6	2	17	12	11	2	8	14
7. Hatchery fish received in good condition:	320	99	142	98	472	99	56	95
Believe they survived	316	98	131	91	469	99	53	90
8. Additional stocking:	59	18	40	28	96	20	16	27
Source:								
Private	51	16	35	24	79	17	12	20
State	8	2	-	-	11	2	-	-
Commercial	-	-	3	2	6	1	2	3
Not reported	-	-	2	1	-	-	2	3
Wild fish present	121	38	22	15	133	28	19	32
9. Assistance received from Federal Government:								
Financial	257	80	102	71	326	69	30	51
Technical	270	84	126	88	412	87	45	76

the bass harvest may be too heavy in many ponds during the early years to keep the pond in balance. Since bluegills tend to overpopulate a pond to their own detriment, as well as that of the bass, adequate numbers of bass are required to maintain a satisfactory balance. An unbalance of this nature could be an underlying cause of poor fishing in later years.

The interest in having catfish in the ponds and the contribution which they are making where they have been stocked, substantiate the Bureau's program for producing and stocking them in addition to the bass-bluegill combination. Catfish also may have a place as an additional species in ponds stocked with trout in some areas or in some types of ponds when used alone.

Apparently, the pond program could be much more successful than the present survey shows it to be if management information and guidance were utilized by more pond owners.

TABLE 3.--Reasons given for poor fishing

Reason Reported	Number	Percent
Too many small bluegills	19	16.0
Silt or muddy water	15	12.6
Presence of wild fish	14	11.8
Too much water through pond	12	10.1
Low fertility	12	10.1
Not fished enough	11	9.2
Partial loss of water	11	9.2
Partial loss of fish	11	9.2
Overstocked (originally)	6	5.0
Too many bullheads	5	4.2
Aquatic weeds and algae	3	2.5
Total ponds reported	119	100.0

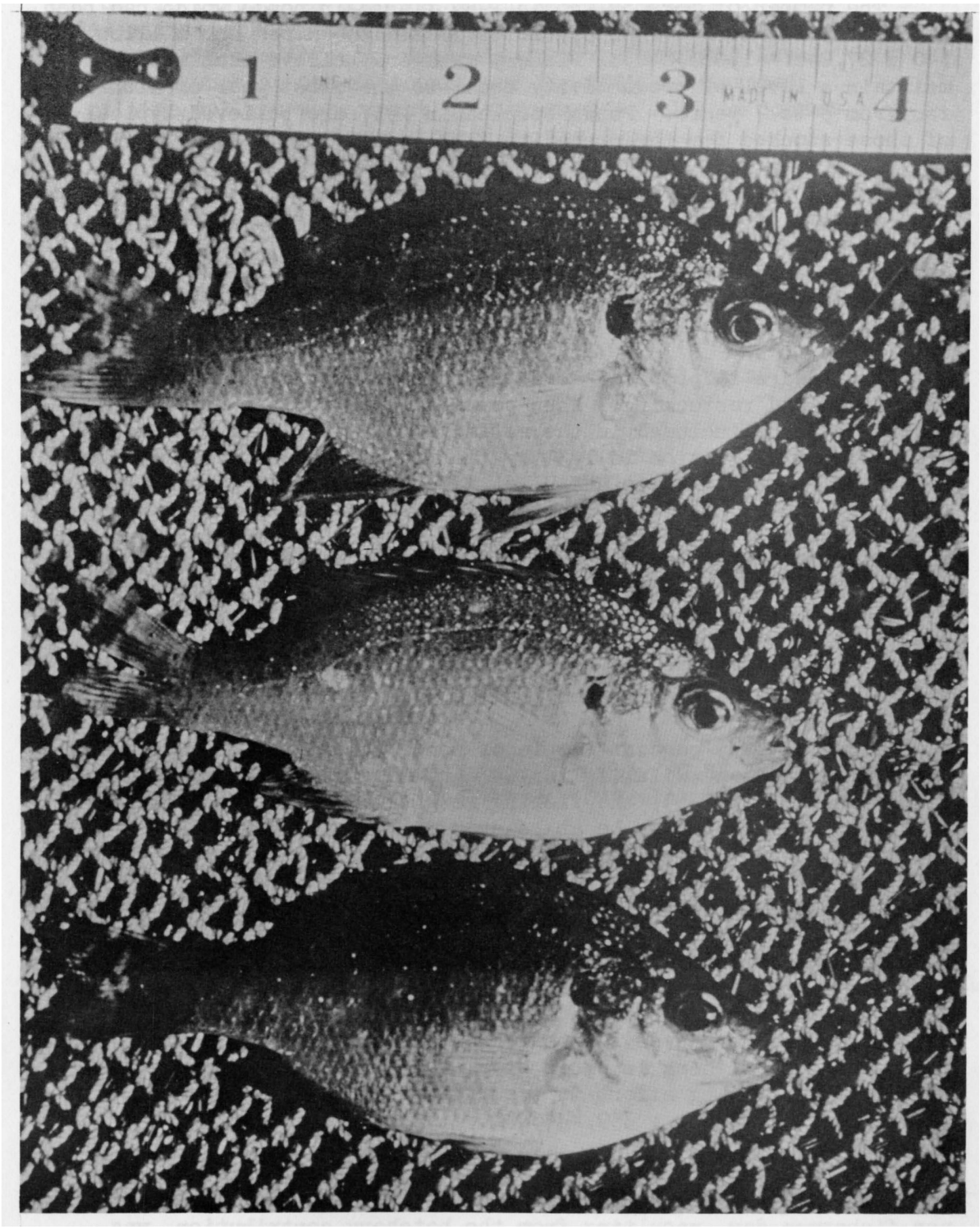


FIGURE 4.--Too many intermediate sized bluegills spell poor fishing and limited bass reproduction.

CONTRIBUTION TO THE NATIONAL FISHING EFFORT

The number of persons who in 1959 fished in ponds which had been stocked by the Bureau in 1957, is estimated to exceed one million (40 x 27,246 = 1,089,840). Fishery managers believe that most ponds maintain a level of productivity equal to the first year of fishing for from 5 to 7 years. Ponds stocked in 1957 are believed typical of those stocked for the preceding four years.

Swingle (1952) proposed that, "Balanced ponds containing the bass-bluegill combination have continued to give good fishing for up to 7 years in experimental ponds, and, so far as records are available up to 14 years in private ponds - where fish kills did not occur, pond weeds were controlled, and fertility was kept high by the use of inorganic fertilization."

Five years is proposed as an average productive life, without renovation and restocking. When ponds stocked for the 4 years preceding 1957 are included in the estimate, as many as five million people found recreation in 1959 by fishing in ponds stocked by the Bureau of Sport Fisheries and Wildlife. The number of fishermen (12 years and older) in the United States, who fished in fresh water, was estimated by the National Survey of Fishing and Hunting to be 18,420,000 in 1955. This number had grown to at least 20,000,000 by 1959, based on increases reported in sales of fishing licenses. (The number of fishing license holders, as reported by the States, rose from 18,854,809 in 1955 to 20,006,536 in 1959, or by 6.1 percent.) This indicates that in 1959, one in four fresh-water fishermen fished in farm and ranch ponds stocked by the Bureau.

Since the 2.5 percent-sample of ponds stocked by the Bureau of Sport Fisheries and Wildlife in 1957 provided an estimated 103,854 fisherman-days in 1959, the fishing resulting from all ponds stocked in 1957 is calculated to be at least 4 million fisherman-days (40 x 103,854 = 4,154,160). All ponds stocked by the Bureau from 1953 to 1957 could then be credited with more than 20,000,000 fisherman-days during 1959 (calculated figure: 20,770,800).

The National Survey of Fishing and Hunting reports an estimated 338,826,000 man-days of fishing for all fresh waters in 1955. Applying the same rate of increase as indicated above, there were 359,494,000 fisherman-days expended in fresh-water fishing in 1959. The percent of fishing in ponds stocked by the Bureau in relation to the total fishing effort in fresh water in 1959, exceeded 5 percent (20,770,800 ÷ 359,494,000 = .057).

The hatchery and distribution costs of the fish stocked in ponds in 1957 was about $16 per acre of water stocked. The cost per fisherman-day, resulting from the hatchery contribution, was

less than 5 cents. The National Survey found that personal expenditures related to fresh-water fishing averaged about $4 per day in 1955. The pond fisherman may spend less to enjoy a day's fishing than the person who fishes in other waters, although this has not been determined at the national level. If expenditures at the national rate for 1955 are assumed, 80 million dollars were spent by fishermen in 1959 in connection with fishing in ponds stocked by the Bureau.

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SURVEY FORM

Budget Bureau No. 42-5923
Approval expires March 31, 1960

SURVEY OF FISHING IN PONDS STOCKED
BY THE BUREAU OF SPORT FISHERIES AND WILDLIFE

Name of Pond or Owner	State	Survey No.
Post Office Address	County	Hatchery
Date of Survey	Acreage of Pond	Interviewer

Stocking Record: (Complete for all species)

Form 3-1688 No.

From Hatchery	Species	Number	Date

Information from Pond Owner

1. What is the principal purpose (or purposes) of your pond?

   Livestock water ☐, Irrigation ☐, Fishing ☐,

   Wildlife ☐, Swimming ☐, Other ☐.

2. Is the pond providing fishing? Yes ☐, No ☐.

   a. For family ☐, Tenants ☐, Friends ☐, Other ☐.

3. Is special permission required for the public to fish the pond?
   Yes ☐, No ☐.

4. Amount of fishing provided:

   a. What is your estimate of the number of (separate) persons who fished the pond in 1959? _____

   b. How many of these were: men_____, women_____, children (15 yrs. or less)_____/.

   c. What is your estimate of the total number of daily fishing trips or fishermen days that the pond provided: _____.

5. Can you give total catch figures for 1959?

Species	Number	Size most frequently caught

a. Are these figures based on records ☐, or on estimates ☐.

6. Do you consider that the fishing, as compared with other fishing in the area is: Excellent ☐, Satisfactory ☐, Poor ☐.

a. If the pond is not providing satisfactory fishing, what do you believe to be the reason? _____.

7. Were the fish you received from the Federal Hatchery in good condition when you stocked the pond? Yes ☐ No ☐

a. Do you believe the fish survived? Yes ☐ No ☐

8. In addition to fish received from the Federal Hatchery, were fish stocked from any other source? Yes ☐ No ☐

a. If so, give source and kind: _____.

b. Are fish of species other than those planted present in the pond? Yes ☐ No ☐

9. Did you receive financial assistance from the United States Government in building your pond? Yes ☐ No ☐

a. If you did, from what agency? _____.

b. Did you receive technical assistance in building your pond? Yes ☐ No ☐

c. If you did, from what agency? _____.

10. Additional comments by interviewer:

_____

_____

_____

FIGURE 5.--A typical farm pond.

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