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## **OPPORTUNITIES FOR FISH AND WILDLIFE ENHANCEMENT THROUGH WETLAND AND WATER USE STUDIES**

A REPORT TO THE SOUTHEASTERN SECTION,  
WILDLIFE SOCIETY

BY THE COMMITTEE ON WATER USE

By HAROLD E. ALEXANDER, *Arkansas Game and Fish Commission*; ROY WOOD, *U. S. Fish and Wildlife Service*; H. E. WALLACE, *Chairman*, *Florida Game and Fresh Water Fish Commission*

At the last year's meeting of the Southeastern Section of the Wildlife Society in Mobile, Alabama, your Water Use Committee submitted a report which discussed the futility of a committee which changed membership each year. Such change required that each year the committee had to become completely

reoriented to the problem at hand. They had to review past committee reports and bring themselves up-to-date in order to understand the current situation and what was expected of them. As a result, there was very little accomplished except the self-education of the committee members themselves. Thus the primary mission of the committee was never adequately pursued, this mission being the outlining of a progressive and compatible water use program followed up with step by step actions. This fact being recognized, our last year's committee proposed that a permanent group be set up and that, furthermore, this committee be composed not of several scattered members but of one representative from each state in the region.

This type of approach appeared to have promise and was approved by our Society. Subsequently our President, Frank Barick, was delegated to present just such an approach to the Southeastern Association of Game and Fish Commissioners. As a result of Mr. Barick's presentation, the Association became interested in the problem and created its own Water Use Committee, naming Mr. Barick as Chairman.

The function of the Association committee was to serve as a means of mutual assistance between the states as regards wildlife problems of water resource management. It was felt that this function would best be served by conducting a review of the past history and current status of water resources, especially as they may relate to wildlife, to develop a body of water use information which can be used to formulate policies favoring wildlife, and to assist with the inauguration of sound water use legislative or regulatory programs designed to insure proper provision for wildlife resources.

One of the first steps to be taken was the designation of a game or fish technician by the director from each state to serve on the committee. The designation of these members was completely accomplished within several weeks after the Mobile meeting so that this committee has been functioning now for almost a year. The committee members were apparently carefully selected and, according to Mr. Barick, good cooperation has been obtained in the initial approach. Thus we now have a recognized Water Use Committee which holds great promise of doing what we have been hoping for over the past several years.

The question then arose as to the continuing need for a Society Water Use Committee and it was decided that such a committee would still have its place in the picture. The advantages would be in the selection of a small three or four man committee which would be able to study the progress being made by the Southeastern Association committee, be able to point out the error of their ways if they happen to stray, to present for their consideration any aspects of the water use problem inadvertently not being considered or if it so happened that the problem was not within its scope our committee could pursue an independent course. Also federal agencies could be included on this committee whereas the Association committee was strictly a state group. This, therefore, is the reason for our continued existence.

One of the main aims of your committee is to emphasize the need for the study by each state of its civil works program as being executed by the Corps of Engineers. This type of program, our committee feels, has a direct and most important bearing on the wetlands of the region. Therefore, we are convinced that a close study of the various water development projects being carried out in each state is imperative if our wetlands are to be maintained in a usable form for fish and wildlife.

The civil works and water resource development programs in some of our states are so great in number and vast in extent as to be almost unbelievable. Louisiana is a good example. In that state there have been twenty-eight navigation and twenty flood control projects already completed, there are eleven navigation and fifteen flood control projects now under construction, and there are two navigation and seven flood control projects authorized but not yet started. The manner in which these projects blanket the state indicates the scope of the water resource development program and leaves little to the imagination as to the tremendous effect they will have on the fish and wildlife resources.

But not all of the water resource development programs are civil works projects constructed by the Corps of Engineers. Many of the reservoirs in our region are constructed by public and private power companies. For example, Georgia and Alabama have numerous reservoirs now in operation or under construction by private power companies. Regardless of who owns or operates these reservoirs they have definite fish, wildlife, and recreational values and should not be overlooked. In fact, many of the power companies highly favor the most complete recreational project and extend excellent cooperation to game and fish departments as a matter of publicity and good public relations.

In order to highlight the regional water resource development program, maps showing the location of all projects were obtained for each state in the region and sent to each member of the Southeastern Association Water Use Committee for his perusal. Included with this map was a questionnaire form which requested that the committee member refer to the map and then record on the questionnaire those projects known or thought to have definite fish and wildlife values which would be affected by the project in question. Furthermore, each committee member was to indicate whether or not the state had studied, or intended to study, the project and submit a report to the Corps of Engineers or other construction agency involved.

We are pleased to report that good cooperation was obtained and that all of the states in our region answered these questionnaires. It was noted that in excess of 200 projects were felt to have effects on significant fish and game populations. Most of these projects were concerned with stream impoundment and reservoir construction but there were other types such as channel improvement and backwater levee construction which were deemed to have an impact on the resource. Yet very few states had full time personnel assigned to this type of investigation; most merely assigned personnel to make a study when it became apparent that something should be done, and then these persons resumed their normal duties. This, of course, is highly unsatisfactory.

A second item on the questionnaire concerned the annual budgets of the various game and fish departments and how much of this was allocated to a study of the effects of civil works projects. It was ascertained that the annual budget for 12 southeastern states was roughly \$20,000,000.00 of which less than \$200,000.00 was spent on the investigation of water resource development projects. This is less than one percent!

This is an infinitesimal amount of money to be spent on such an important type of investigation. Civil works projects directly affect the wetlands of our states; it is these wetlands which are so productive of our fish and wildlife resources, and it is this type of habitat which is diminishing at such a rapid rate. Compare the amount of money being spent on water and wetland studies with that being spent, for example, on our farm field border program. According to recent information obtained there was approximately \$500,000.00 spent last year on the farm habitat improvement program. This is 2 1/2 times as much as is being spent on wetlands investigations. Consider that the field border program is one which is applied primarily to private lands and that the individual landowner is the person directly benefited whereas the general public receives only indirect value. Consider also the fact that farm game species are quite prolific and can generally be maintained with a minimum of effort.

On the other hand, our rivers and valleys and a considerable portion of our marsh lands are publicly owned and, therefore, the fate of many proposed developments does not fall to the whim or prerogative of any certain individual landowner; instead the public itself is the landowner and has a definite right and privilege to demand that the most compatible use be made of that land. In many cases the highest value to which that land can be put is wildlife and so there should be little argument as to the management of that land. In other cases fish and wildlife are secondary, yet there are usually ways and means by which construction for the primary purpose can be modified so as to nullify the damage or increase the benefit of that project on wildlife. It is in this field of operation that we are so vitally concerned and it is here that we are quite often missing out on excellent opportunities.

Do the various game and fish departments realize the opportunities they are missing? Do they care? If the answer is "yes" then why isn't something done about it? We think the answer to this question is that they feel the problem is too complex for them to handle, that it involves a number of other agencies with the conservation agency thought of as playing second fiddle, and finally they use the excuse that the Office of River Basin Studies of the U. S. Fish and Wildlife Service has been specifically assigned to do this work so why bother.

It has been pointed out time and again and it is still simply a cold hard fact that the ORBS has neither the time, man power, nor equipment to do *all* the work. The ORBS primarily depends on the state agency for basic data and merely collects, compiles, and presents all available information on the subject. If the state has little material to offer, a weak report often results. An ORBS program can be strengthened materially by a strong state program and this is what we must have. If anyone doubts this declaration they have only to ask the ORBS for substantiation.

Actually the ORBS has done some very good and much needed work even under the handicap that now exists. In this regard our committee thought that it would be timely to point out the gains that could be made by an aggressive investigation of civil works programs so we selected a typical state for analysis. This state was Arkansas. Arkansas is a state with many rivers and waterways and associated wetlands which contribute to its high fish and wildlife productivity. Because of these many wetland areas there is also an intensive civil works program now in progress and planned. This is one reason Arkansas was chosen as the example for discussion at this time. Another good reason is the fact that two of the committee members, Roy Wood and Harold Alexander, are intimately acquainted with that state and its program. Here are the facts on the Arkansas situation. (See attached supplement.)

As can be seen from this analysis, Arkansas was able to preserve much of its fish and wildlife habitat by properly investigating the civil works program and working closely with the planning and construction agencies. It is important to note not only those areas and resources which were preserved but more than that to realize the losses which would have occurred had not these studies been conducted. The same situation undoubtedly exists in your state and the question now is what does your state intend to do about it? We think the answer is to continually focus attention to this grave problem and, not only that, try to offer the best solution to the problem. To us, the best means of approach is the definite earmarking of state funds for this type of investigation. There is enough precedent already established to enable a state to chart its course once these funds are earmarked and made available.

Now, as a result of conservation measures enacted during the last session of Congress, we have an opportunity greater than any we have ever had to develop our river basins and wetlands for fish and wildlife restoration purposes. First we have the amendment to Public Law 732 which is known as the Coordination Act. The opportunity that exists under the Coordination Act Revision is nicely summed up in the National Wildlife Federation Conservation News Bulletin as follows: "In the past, federal and state wildlife agencies faced a difficult situation in the construction of federal water projects. Dams, and the resultant impoundments, and other projects often altered fish and wildlife values or eliminated them entirely. With little or no engineering advice available—certainly not in comparison to staffs of the U. S. Army Corps of Engineers or the Bureau of Reclamation—these agencies usually were faced with the accomplished fact of construction and forced to like it, or else! The Coordination Act of 1946 permitted the "mitigation" of fish and wildlife losses. Now, the amendments adopted by the 85th Congress also authorize "enhancement" so that fish and wildlife values can be *planned into* water projects. In other words, federal and state wildlife agencies for the first time will have a voice in water resource development and management as related to flood control, power, navigation or reclamation projects. Significance of this measure on the long-range future of public hunting and fishing and other water recreations is difficult to over-emphasize."

Another important step in the right direction was the amendment to Public Law 566 which concerns small watersheds. In the past most fish and wildlife planning in these projects was incidental and there was no federal cost sharing arrangement for the development of such values. However, this amendment now provides for this federal cost sharing and, as a result, impoundments may be enlarged or developed for waterfowl habitat or otherwise improved for fish and wildlife purposes.

A third major legislative accomplishment was the passage of a bill to increase the cost of the duck stamp to \$3.00 with all of this money being earmarked for acquisition of waterfowl habitat. The provisions of this bill provide that up to 40 percent of the acreage purchased can be used for public hunting.

Therefore, we now have three new fields of opportunity which we should exploit to the fullest. But how can we fully take advantage of these opportunities unless we have a proper and adequate investigative program set up? We cannot. As matters now stand, many of our states are going to continue ignoring these highly desirable approaches if past history is any indication of future effort. We sincerely hope that we are wrong but that remains to be seen.

The information which has just been given you has been focused from the fish and wildlife standpoint yet conservation agencies are not the only ones which are involved. There are many state and federal agencies concerned with water quality, water quantity, and water use. This fact has been emphasized by the Southeastern Association Water Use Committee which recently studied this facet of the problem. Since it is probable that committee will discuss the interrelations of these various agencies there is little need for repetition in this report. The only point that needs to be brought out here is the fact that we do have many other agencies concerned with the civil works projects and thus we have other programs from which we can derive needed information. Fortunately it is believed that most of these agencies seek what we do and, therefore, we have allies from which support can be obtained. Therefore, it resolves into a matter of coordination between these various agencies in order to reach our common goal, and we hope that through the establishment of water use committees we can conduct such liaison which is so urgently needed.

To sum up this report we are convinced that the opportunity is present as never before to enhance the fish and wildlife resources in all our states thru wetland and water use studies. The Public Law 732 program can be enhanced thru cooperation with the Corps of Engineers. The Public Law 566 program can be enhanced thru cooperation with the U. S. Soil Conservation Service. The \$3.00 duck stamp program can be enhanced thru cooperation between the conservation agencies. The legislative authority is there but are we going to seize the opportunity? It is going to take personnel assigned specifically to these programs on a full time basis to fully exploit the potential.

We direct this final question to the game and fish commissioners. Who in your state is going to handle the Public Law 732 program, the Public Law 566 program, and the \$3.00 duck stamp program? If there is uncertainty in your mind there is room for improvement which means that something should be done. We respectfully request that the Southeastern Chapter of the Wildlife Society resolve to present this report and pose this particular question to the Southeastern Association of Game and Fish Commissioners thru their designated Water Use Committee.

AR KANSAS  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i>              | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i> |
|-------------------------------------|---------------------------|---|
| Bull Shoals Reservoir               | Yes ?                     | Fishery study in progress                     |
| Lone Rock Reservoir                 | No                        | Statement from Fishery Div. to Com.           |
| Upper White River Navigation        | Yes                       | Fishery study in progress                     |
| Arkansas River Navigation           | No                        | No. FWS study only                            |
| Nimrod Reservoir                    | Yes                       | Yes. Experimental drawdowns.                  |
| Blakely Mountain Reservoir          | Yes                       | Yes. A comparative fish study                 |
| De Gray Reservoir                   | Yes                       | Statement regarding FWS report                |
| Millwood Reservoir                  | No.                       | (Development of Sulphur River)                |
| Ouachita-Black River Channel (Nav.) | No.                       | A limited pollution study                     |
| Bocuf & Tensas Rivers (Nav.)        | No.                       | No  |
| Narrows Reservoir                   | No.                       | No  |
| Bayou Meto (channel)                | Yes ?                     | A statement made of effects on area           |
| Greers Ferry Reservoir              | No                        | No. FWS report only                           |
| West of Morrilton (Levee)           | No                        | No. FWS report only                           |
| Bayou Bartholomew                   | No                        | No  |
| Grand Prairie Region                | Yes                       | Statement at public meeting only              |
| Beaver Reservoir                    | No                        | No  |
| Dardanelle Reservoir                | No                        | FWS study only                                |
| Ozark Reservoir                     | No                        | FWS study only                                |
| Water Valley Reservoir              | No                        | FWS study only                                |
| Bell Foley Reservoir                | No                        | No  |
| Black River Channelization          | Yes                       | Regarding Federal Aid project areas only      |
| Cache River Basin                   | No                        | FWS study only                                |
| Languille River                     | No                        | No  |
| White River Backwater Levee         | No                        | FWS study only                                |
| Bocuf and Tensas Rivers             | No                        | FWS study only                                |

|                                     |           |                                  |
|-------------------------------------|-----------|----------------------------------|
| St. Frances River Basin .....       | Yes ..... | Specific wildlife areas only     |
| Blue Mountain Reservoir .....       | Yes ..... | No. Only experimental drawdowns  |
| Norfolk Reservoir .....             | Yes ..... | Trout study below reservoir only |
| Millwood Tributary Reservoirs ..... | No .....  | No                               |

Arkansas Game and Fish Commission has an annual budget of approximately \$2,000,000.00 of which none is actually earmarked for investigation of civil works projects. However, the state does have an extensive wetland acquisition program. To date 13 wetland areas comprising 112,000 acres have been obtained. Total purchase and development costs presently exceed \$2,000,000.00. Also the Fisheries Division has 3 trout and impoundment studies set up at an annual cost of \$53,000.00 and they also have \$30,000.00 per annum for lake management. These activities compensate somewhat for the lack of funds earmarked expressly for river basin studies.

ALABAMA  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i>             | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i>                |
|------------------------------------|---------------------------|--|
| Pickwick Reservoir (TVA) .....     | Studied .....             | Fish and waterfowl studies made after impoundment            |
| Wilson Reservoir (TVA) .....       | Studied .....             | Fish studies after impoundment                               |
| Wheeler Reservoir (TVA) .....      | Studied .....             | Fish & waterfowl after impoundment                           |
| Guntersville Reservoir (TVA) ..... | Studied .....             | Fish & waterfowl after impoundment                           |
| Luxapalia Creek .....              | No Study .....            |  |
| Sipsey River .....                 | No Study .....            |  |
| Memphis Lock and Dam .....         | Planned .....             | No report planned. Will furnish data and cooperate with ORBS |
| Gainessville Lock and Dam .....    | Planned .....             | No report planned. Will furnish data and cooperate with ORBS |
| Lock 17 .....                      | No Study .....            | No report submitted  |
| Lock 16 .....                      | No Study .....            | No report submitted  |
| Lock 15 .....                      | No Study .....            | No report submitted  |

ALABAMA—Continued  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS—CONTINUED

| <i>Name of Project</i>     | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i> |
|----------------------------|---------------------------|---|
| Lock 14                    | No Study                  | No report submitted                           |
| Lock 13                    | No Study                  | No report submitted                           |
| New Lock and Dam           | No Study                  | No report submitted                           |
| Tuscaloosa Lock & Dam      | No Study                  | No report submitted                           |
| Lock 9                     | No Study                  | No report submitted                           |
| Lock 8                     | No Study                  | No report submitted                           |
| Lock 7                     | No Study                  | No report submitted                           |
| Warrior Lock and Dam       | Studied                   | No report. Field data to ORBS                 |
| Lock 6                     | No Study                  | No report submitted                           |
| Lock 5                     | No Study                  | No report submitted                           |
| Lock 4                     | No Study                  | No report submitted                           |
| Demopolis Lock & Dam       | Studied                   | No report. Field data to ORBS                 |
| Lock 3                     | No Study                  | No report submitted.                          |
| Lock 2                     | No Study                  | No report submitted.                          |
| Jackson Lock & Dam         | Studied                   | No report. Field data to ORBS                 |
| Lock 1                     | No Study                  | No report submitted                           |
| Mobile R. Delta            | No Study                  | No report submitted                           |
| Mobile Harbor Channel      | No Study                  | No report submitted                           |
| Bayou La Batre Channel     | No Study                  | No report submitted                           |
| Bayou Coden Channel        | No Study                  | No report submitted                           |
| Dauphin Island Channels    | No Study                  | No report submitted                           |
| Gulf Intracoastal Waterway | No Study                  | No report submitted                           |
| Fly Creek Channel          | No Study                  | No report submitted                           |
| Blakely River              | No Study                  | No report submitted                           |
| Blackwater River           | No Study                  | No report submitted                           |
| Jim Woodruff Reservoir     | No Study                  | No report submitted                           |



|  |          |                                   |
|--|----------|-----------------------------------|
| Columbia Lock and Dam                  | Planned  | No report planned. Data to ORBS   |
| Ft. Gaines Lock and Dam                | Planned  | No report planned. Data to ORBS   |
| Claiborne Lock and Dam                 | Planned  | No report planned. Data to ORBS   |
| Millers Ferry Lock and Dam             | Planned  | No report planned. Data to ORBS   |
| Jones Bluff Lock and Dam               | Planned  | No report planned. Data to ORBS   |
| Autauga Creek                          | No Study | No report submitted               |
| Wetumpka Dam (Planned, Ala. Power Co.) | Planned  | No report planned. Data to ORBS   |
| Jordan Dam (APC)                       | Studied  | Fish studies only—report made     |
| Mitchell Dam (APC)                     | Studied  | Fish studies only—report made     |
| Lay Dam (APC)                          | Studied  | Fish studies only—report made     |
| Thurlow Dam (APC)                      | No Study | No report submitted               |
| Yates Dam (APC)                        | No Study | No report submitted               |
| Martin Dam (APC)                       | Studied  | Fish studies only—report made     |
| New Lay Dam (Planned by APC)           | Planned  | No report planned. Data to ORBS   |
| Kelly Creek (APC)                      | Planned  | No report planned. Data to ORBS   |
| Lock 3 Dam (APC)                       | Planned  | No report planned. Data to ORBS   |
| Weiss Dam (APC)                        | Planned  | No report planned. Data to ORBS   |
| Black Creek                            | No Study | No report submitted               |
| Collinsville                           | No Study | No report submitted               |
| Smith's Ford Upper (Warrior Elect.)    | Studied  | No report submitted. Data to Orbs |
| Smith's Ford Lower (Warrior Elect.)    | Studied  | No report submitted. Data to Orbs |
| Lewis Smith Dam (APC) on Sipsey Fork   | Planned  | No report planned. Data to ORBS   |
| Bartletts Ferry Dam                    | No Study | No report. Ga. Power Co.          |
| Goat Rock Dam                          | No Study | No report. Ga. Power Co.          |
| Gantt Dam                              | No Study | No report. Conecuh Elec. Coop.    |
| Point A Dam                            | No Study | No report. Conecuh Elec. Coop.    |
| Inland Dam                             | No Study | No report. Birmingham Industrial  |
| Big Creek Dam                          | No Study | No report. Mobile Municipal       |

Alabama has a one and one-half million dollar budget for the Division of Game and Fish of which none is specifically set up for fish and game studies of civil works projects or other water projects affecting fish and game resources.

We have assigned one of our Biologists to negotiate with the Corps of Engineers, Alabama Power Company, and other owners and builders of large water projects concerning fish and wildlife resources. In addition, other Game and Fish personnel from time to time make inspection tours, attend meetings, etc., concerning such projects. We assist River Basins Studies personnel on such projects whenever possible. It would be difficult to make even a rough estimate of the amount spent on this work. However, if you can use such a figure, here is one pulled from the air—\$5,000.00 annually.

FLORIDA  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i>                        | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i> |
|---|---------------------------|---|
| Central & Southern Fla. Flood Control Project | Studied                   | Yes   |
| Lake Istokpoga                                | Studied                   | Yes   |
| Conservation Area 2                           | Studied                   | Yes   |
| Northwest shore of Lake Okkechobee            | Studied                   | Yes   |
| Kissimmee River                               | Studied                   | Yes   |
| St. Johns River                               | Studied                   | Planned                                       |
| Caloosahatchee River                          | Studied                   | Planned                                       |
| Conservation Area 3                           | Studied                   | Planned                                       |
| Sanford-Titusville Canal                      | Studied                   | Yes   |
| Cross-state Barge Canal                       | Planned                   | Planned                                       |

The Florida Game and Fresh Water Fish Commission has an annual budget of approximately \$2,000,000.00 of which \$60,000.00 is being spent in studying the effects of the civil works program on the game and fresh water fish resource. There are perhaps fifty salt water harbor and navigation projects now under planning or construction but these are not normally considered by our agency unless there are waterfowl values involved.

**GEORGIA**

PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i>    | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i> |
|---------------------------|---------------------------|---|
| Hartwell Reservoir        | Planned                   | Submitted                                     |
| Buford Reservoir          | Studied                   | Submitted                                     |
| Buford Reservoir tailrace | Studied                   | Submitted                                     |
| Allatoona Reservoir       | Studied                   | Submitted                                     |
| Oostanola River           | Studied                   | Plan to submit                                |
| Clark Hill Reservoir      | Studied                   | Submitted                                     |
| Augusta Levee             | Studied                   | Not submitted                                 |
| Sinclair Dam              | Studied                   | Submitted to Ga. Power                        |
| Jackson Reservoir         | Studied                   | Submitted to Ga. Power                        |
| Langdale Dam              | Studied                   | Submitted to Ga. Power                        |
| Riverview Dam             | Studied                   | Submitted to Ga. Power                        |
| Bartletts Ferry Dam       | Studied                   | Submitted to Ga. Power                        |
| Goat Rock Dam             | Studied                   | Submitted to Ga. Power                        |
| North Highland            | Studied                   | Submitted to Ga. Power                        |
| Lake Nottelley            | Studied                   | Submitted to T. V. A.                         |
| Blue Ridge Lake           | Studied                   | Submitted to T. V. A.                         |
| Lake Chatuge              | Studied                   | Submitted to T. V. A.                         |
| Lake Seminole             | Studied                   | Submitted Corps of Engineers                  |
| Flint River Reservoir     | Studied                   | Submitted to Ga. Power Co.                    |
| Lake Blackshear           | Studied                   | Submitted to Crisp Power Co.                  |

Annual budget of \$1,200,000.00 and approximately \$65,000.00 is being spent (annually) in studying the effects of the civil works program on fish and game in Georgia.

KENTUCKY  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| Name of Project   | Studied or Planned | Report Submitted to Corps of Engineers * |
|---|--------------------|--|
| Mayfield Creek .....  | No                 | No                                       |
| Lake Nine Drainage Project<br>(Obion Creek) not shown ..... | No                 | No                                       |
| Barkley Dam .....   | Yes                | No. Given to SCS                         |
| Miming City .....   | Yes                | No*                                      |
| Rough River .....   | No                 | No. Project very indefinite              |
| Nolin River .....   | Yes                | No*                                      |
| No. 2 Barren .....  | Yes                | No*                                      |
| No. 2 Green .....   | Yes                | No*                                      |
| Licking River .....   | Yes                | No* (Project indefinite)                 |
| Booneville .....  | No                 | No. Project probably abandoned           |
| Cave Run .....  | Yes                | No*                                      |
| Jessamine Creek .....                                       | No                 | No. Project probably abandoned           |
| Buckhorn .....  | Yes                | No*                                      |
| Fishtrap .....  | Yes                | No*                                      |

\* Field data were given to Branch of River Basins, Fish and Wildlife Service for inclusion in their report.

Kentucky has a budget of approximately \$1,900,000.00 of which about \$3,000.00 is spent on surveys of civil works projects. This does not include cost of equipment, and the surveys are secondary duties of personnel assigned to other projects.

LOUISIANA  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| Name of Project                            | Studied or Planned | Report Submitted to Corps of Engineers    |
|--|--------------------|---|
| Mooringport Reservoir, La. and Tex.        | Prelim.            | Comments to Corps                         |
| Posten Bayou                               | Prelim.            | Comments to Service                       |
| Red River below Denison Dam                | Prelim.            | Comments and Coop. with Service and Corps |
| Overton-Red River Waterway                 | Prelim.            | Comments and Coop. with Service and Corps |
| Bocut and Tensas River and Bayou Macon     | Prelim.            | Comments and Coop. with Service           |
| Red River Backwater Levees                 | Prelim.            | Coop. with Service and Rept. to Corps     |
| Ouachita River and Tributaries             | Prelim.            | Coop. with Service                        |
| Sabine-Neches Waterway                     | Prelim.            | Coop. with Service                        |
| Calcasieu River and Pass                   | Prelim.            | Coop. with Service                        |
| Bayou Nezphique and asst. waters           | Prelim.            | Coop. with Service                        |
| Bayou Teche and Vermilion River            | Prelim.            | Coop. with Service and Rept. to Corps     |
| Bayou Tigre, Carlin, and Petit Anse        | Prelim.            | Coop. with Service and Rept. to Corps     |
| Bayou Teche                                | Prelim.            | Coop. with Service                        |
| Atch. River, Morgan City to Gulf           | Prelim.            | Coop. with Service and Rept. to Corps     |
| Atch. Basin Fldwy.—Dredging and Main Chan. | Prelim.            | Coop. with Service and Rept. to Corps     |
| Bayou Lafourche                            | Prelim.            | Coop. with Service and Rept. to Corps     |
| Amite River                                | Prelim.            | Coop. with Service and Rept. to Corps     |
| Tangipahoa River                           | Prelim.            | Coop. with Service and Rept. to Corps     |
| Chefuncte and Bogue Falia Rivers           | Prelim.            | Coop. with Service and Rept. to Corps     |
| Miss. River—Gulf Outlet                    | Prelim.            | Coop. with Service and Rept. to Corps     |
| Barataria Bay Waterway                     | Prelim.            | Coop. with Service and Rept. to Corps     |

Preliminary Studies were made on these listed projects or segments thereof, either individually or in cooperation with the Service, Branch of River Basin Studies. Reports in the form of letters, statements, or a detailed compilation of data have been made for these. Where "report to Corps" is indicated, some form of report was presented, either at a Public Hearing or via mail. Unfortunately a number of major projects such as the Mississippi River flood control and the Intracoastal Waterway programs have had major effects on fish and wildlife in the state as these were authorized and constructed a number of years ago so that virtually no studies or reports were made for these. Louisiana has an estimated budget of \$1,500,000.00 of which \$7,500.00 would generously cover expenses associated with this type of investigation.

MISSISSIPPI  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i>  | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i>   |
|---|---------------------------|---|
| Arkabutla Reservoir .....   | Yes .....                 | General Management Plan submitted to Corps of Engineers   |
| Sardis Reservoir .....  | Yes .....                 | General Management Plan submitted to Corps of Engineers   |
| Enid Reservoir .....  | Yes .....                 | General Management Plan submitted to Corps of Engineers   |
| Grenada Reservoir .....   | Yes .....                 | General Management Plan submitted to Corps of Engineers   |
| Lower Auxiliary Channel .....   | Yes .....                 | No report to Corps of Engineers. Data regarding this project was given to Branch of River Basins, U. S. Fish and Wildlife Service |
| Yazoo Backwater Levee and dredging of streams west of the levee ..... | Yes .....                 | No report to Corps of Engineers. Data regarding this project was given to Branch of River Basins, U. S. Fish and Wildlife Service |
| Tennessee-Tombigbee Waterway .....                                    | Yes .....                 | A study of this project will be made if it appears that the project may possibly be carried out                                   |

The Mississippi Game and Fish Commission has an annual budget of \$1,000,000.00 of which no more than \$8,000.00 is being spent in fish and game studies of civil works projects.

NORTH CAROLINA  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i> | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i> |
|------------------------|---------------------------|---|
| John H. Kerr Dam ..... | Yes .....                 | No Coop. with River Basins                    |
| Wilkesboro Dam .....   | Yes .....                 | No Coop. with River Basins                    |

North Carolina has a total budget of approximately \$2,500,000.00, of which possibly \$2,000.00 a year is spent in studies of civil works projects. Included under this category are only those projects of the Corps of Engineers. There have been a number of other developments by private interests which have or will have a profound effect on the fisheries values; the state is actively engaged in studying some of these projects.

SOUTH CAROLINA  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i>     | <i>Studied or Planned</i> | <i>Report Submitted to Corps of Engineers</i> |
|----------------------------|---------------------------|---|
| Hartwell Reservoir .....   | Yes .....                 | Yes   |
| Clark Hill Reservoir ..... | Yes .....                 | Yes   |

The waterway projects will probably not greatly affect fish or wildlife except where channel straightening is contemplated and this resulting in salt-water encroachment further upstream. We are not familiar with the type of work anticipated in these waterway projects.  
Total annual budget: \$1,100,000.00.  
Amount spent to study civil works: \$3,000.00.

TENNESSEE  
PROJECTS HAVING PRESENT OR POTENTIAL EFFECTS ON SIGNIFICANT FISH AND GAME POPULATIONS

| <i>Name of Project</i>   | <i>Studied or Planned</i>   | <i>Report Submitted to Corps of Engineers</i>   |
|--|---|---|
| TVA projects: South Holston, Boone Ft. Patrick Henry, Watauga, Norris, Cherokee, Douglas, Calderwood, Osceola, Great Falls, and should include Fort Loudoun, Watts Bar, Chuckamauga, Hales Bar, Pickwick, and Kentucky Woods Reservoir (AEDC on Elk River) | NO<br>TVA studies in early stages of program took the place of studies by the state<br>NO | The state did not submit a report to TVA on these projects that are already completed   |
| Army Engineer Reservoirs (completed) Dale Hollow, Center Hill, Old Hickory, Cheatham   | NO  | No report was submitted to Engineers by state, but recommendations were made by River Basins  |
| Army Engineer Reservoirs (proposed) Rossvlew, Three Islands, and Stewart's Ferry and Barkley   | YES<br>(More intensive pre-impoundment studies will be made)                              | In view of the fact that more stream habitat is being affected by succeeding reservoir projects, a more comprehensive study will be made, particularly of Stewart's Ferry, which will probably be the next project. However, recommendations will probably be made through River Basins |
| Reelfoot Lake Area   | YES   | Report made through River Basins  |
| Mississippi River Tributaries (include Obion River, Forked Deer River, Hatchie River, Loosahatchie River)  | NO  | Recommendations made through River Basins   |

Tennessee has a three million dollar game and fish budget. Of that amount, less than \$5,000.00 has been spent each year on studies of civil works projects.



VIRGINIA  
PROJECTS HAVING PRESENT OR POTENTIAL AFFECTS ON  
SIGNIFICANT FISH AND GAME POPULATIONS

None of the channel straightening or deepening projects listed on the map will affect wildlife.

The reservoir projects listed have not been investigated by the Commission of Game and Inland Fish as such. We have relied on Bill Lawson and the Branch of River Basin, and call on him for this work.

The Commission's annual budget is approximately 2½ million dollars. Of this amount none is set aside specifically for investigation of civil works projects. Any work done along this line is assigned to the person most familiar to the project and is paid out of incidental State funds.

**MINUTES OF DOVE COMMITTEE MEETING  
SOUTHEASTERN SECTION OF THE WILDLIFE SOCIETY  
LOUISVILLE, KENTUCKY, OCTOBER 20, 1958**

ROLLAND B. HANDLEY, *Chairman*; DAN RUSSELL, *Vice-Chairman*  
LEONARD FOOTE, FRANK WINSTON, ST. CLAIR THOMPSON, W. H. KIEL, JR.

A meeting of the Dove Committee of the Southeastern Section of the Wildlife Society was held October 20, 1958, at the Kentucky Hotel, Louisville, Kentucky, in conjunction with the 12th Annual Conference of the Southeastern Association of Game and Fish Commissioners. Twenty persons were in attendance, representing various states in the Southeast and other organizations including Indiana Department of Conservation, Bureau of Sport Fisheries and Wildlife, North Carolina State College, Remington Farms, National Audubon Society, National Wildlife Federation and Wildlife Management Institute.

Representatives of various organizations discussed inventory and management techniques that are summarized as follows.

Mr. Harold S. Peters presented his findings on "The Cost Estimates of Dove Hunting," as taken from his 1957 report to the Wildlife Society. Mr. Peters stated that there were more doves shot annually than the combined waterfowl species, and, in view of the amount of funds contributed to the Pittman-Robertson program, the U. S. Fish and Wildlife Service should recognize this fact and assign more than just one man to dove study.

Mr. Peters also gave detailed information on call counts made in studies of individual doves covering sixty-minute listening periods. His findings revealed some doves call at random while others do not. Calling behavior was apparently the same at fourteen stations in two midwest life zones.

Mr. Scott Overton described his work at North Carolina State College on the problem of applying statistical procedures to collection of kill data. Through this study he is attempting to assemble kill survey data from throughout the country that will be obtained from sources other than total license-sales structures. The objective of the survey is to obtain kill data usable in making region-wide estimates indicative of the dove population.

Mr. William H. Kiel, Jr. presented a report on banding operations, reviewing the numbers of nestlings banded and recovered for each state participating in the five-year cooperative dove-banding program. He stressed the need for more local banding of nestlings and more even distribution of banding within the individual states. He suggested that Bureau of Sport Fisheries and Wildlife game agents be requested to band nestling doves, to which Mr. Parker Smith added that Bureau of Sport Fisheries and Wildlife refuge personnel also be requested to carry out a nestling banding program.

Mr. Kiel brought to the attention of the group that a Bureau of Sport Fisheries and Wildlife employee was being assigned to conduct a study on the incidence and severity of *trichomoniasis* in doves. Individual states and cooperators will be notified of this study and informed of ways they may assist.