or concrete log ramps vary to such a degree in each location, it is extremely difficult to make comparisons between them. This variance is due in part to the amount of preparation necessary for the base, distance from fabrication plant or available concrete and length of ramp desired. Generally, however, the concrete log ramp proves the most expensive by a narrow margin. In suitable locations, either should be installed for between $1500-$2500. Concrete logs should be available for prices ranging between $7.50-$20.00, delivered, per log, depending on transportation charges.

Programs providing access and boat launching ramps on public fishing waters have been popularly received in areas where they have been initiated. Suitable ramps can be designed and constructed at a relatively low cost. The three types described in this paper provide usable facilities for several years, with a minimum of maintenance.

The ideas and specifications listed are not presented as detailed plans. They should prove sufficient to provide information from which detailed plans and specifications can be prepared. Modifications can and should be made to take advantage of local conditions best understood following individual site inspections.

COOPERATION OF THE ALABAMA STATE DEPARTMENTS OF CONSERVATION AND HIGHWAYS IN THE CONSTRUCTION OF ACCESS AREAS

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INTRODUCTION

The Alabama Departments of Conservation and Highways have had a cooperative agreement since 1957 for the purpose of developing public access areas. This agreement was made because both Departments recognized the tremendous need for public access development and wanted to construct as many of these areas as possible with the monies available for this purpose from the Department of Conservation's Game and Fish Fund. During these past three years, 44 public access areas have been approved for construction under this cooperative agreement at an estimated cost of $269,000.00. Most of these areas have been completed while the others are presently under construction. Under the agreement, the access areas are selected, planned and designed by the Conservation Department. The Highway Department provides labor, materials, and equipment for the construction and bills the Conservation Department for actual costs. Typical views of access areas that have been developed under this agreement are shown in Figures 1, 2, 3, and 4.

SELECTION OF ACCESS SITES

Alabama's Public Access Areas have been constructed on State-owned lands, on areas under licenses from the Corps of Engineers and the Tennessee Valley Authority, and on lands acquired from local sportsmen's groups through fee-simple titles or long term leases (at least 20-year renewable). No Department funds are expended for the lands on which the access developments are made. All deeds or leases for sites acquired are furnished to the Department free of charge by local interests. Areas selected for development had existing access roads or such roads were constructed by local county, city, sportsmen or civic interests without cost to the Department of Conservation. The Highway Department also provided access roads not exceeding one-half mile free of cost to the Department of Conservation. The size of the areas developed ranged from 2 to 15 acres, with the average size being approximately 5 acres. Final selection

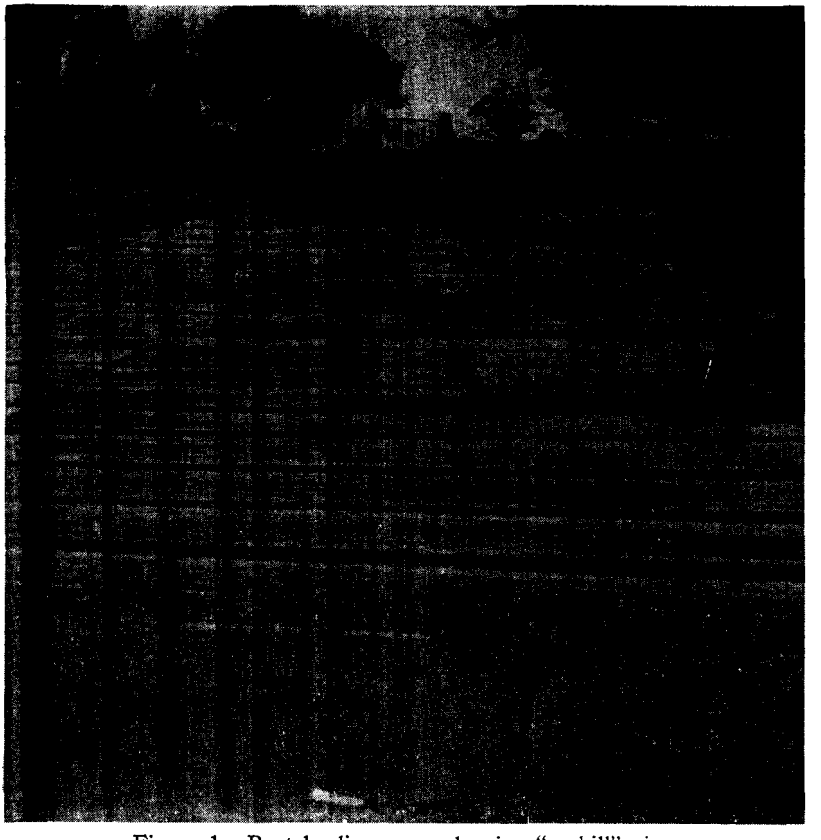

Figure 1. Boat landing ramp showing "up-hill" view

of the sites by Departmental Engineers and Fishery Biologists was dependent upon the need for the access area and whether or not the area could be developed at a feasible cost.

CONSTRUCTION OF ACCESS AREAS

Once a site was selected for development, a survey of the area was made by Engineers of the Conservation Department. Their plan for development was then submitted to the Highway Department for a cost estimate and a Special Work Authorization (S. W. A.).

Upon receipt of the cost estimate and S. W. A., the Department of Conservation sent Plans, Specifications and Estimates to the Fish and Wildlife Service for Federal aid approval under the Dingell-Johnson Act. If Federal approval was granted, the project was then resubmitted to the Highway Department with the Director of Conservation's authorization to begin construction.

The original construction stakes for the projects were set by Conservation Department Engineers and the Plans and Specifications were reviewed on the job with the Resident Highway Department Engineer. It was then the responsibility of the Resident Engineer to assign Highway Department personnel to carry out the construction of the project and to keep the Conservation Engineer informed of the progress so he could make periodic inspections of the project.

All materials, labor and equipment for the construction of the access areas were furnished by the Highway Department. The actual construction was di-

Figure 2. Boat landing ramp showing "down-hill" view

vided primarily into three phases including: (1) clearing and grubbing; (2) grading of parking and boat launching areas; (3) and the paving of the parking area and placing of the prefabricated concrete slabs.

All trees, stumps and shrubs in the construction area were cut and disposed of (usually by burning). None of these materials were left in the surrounding areas that would give an "unsightly" appearance to the development.

Following the clearing and grubbing operation, rough grading was done and the drainage structures put in place. Then, final grade stakes were placed and the sub-base and base materials such as sand base course, clay-gravel or rock-fill were applied and compacted.

The parking area was then paved with a double or triple surface bituminous treatment. The geographical location of the site determined whether or not a seal coat was placed on the surface. One of the purposes of the seal coat was to provide protection from freezing. One acre or more of paved parking area was developed at most of the access sites. The prefabricated concrete slabs on the lower end of the boat launching ramp were normally placed on a 15% grade (range 10 to 15%) for a distance extending from 2 feet above the normal high-water mark to 2 feet below the normal low-water mark. The remaining grade of the ramp was usually dependent upon the topography of the area. The purpose of the 15% grade at the lower end of the ramp was to allow for the launching and loading of boats without having to wade in water. Most of the ramps were constructed of two rows of slabs ten feet long which gave the ramps a total width of 20 feet.

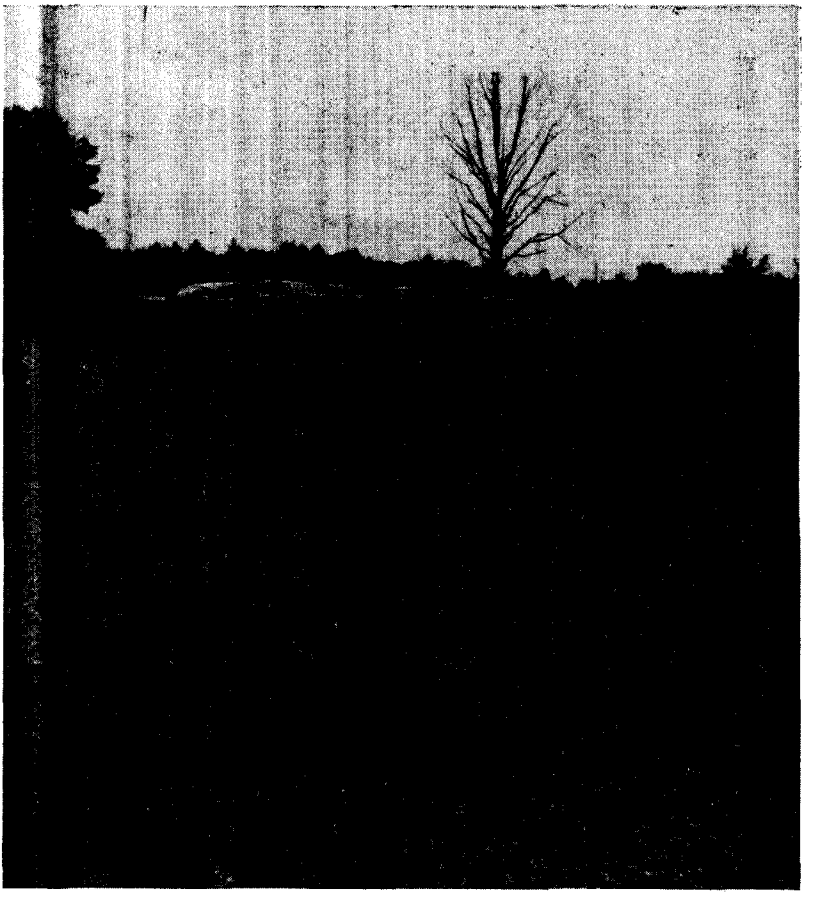

Figure 3. Typical parking area of a fishing access development

The Highway Department keeps an accurate itemized record of all expenditures for materials, labor, equipment operations and supervision, and furnishes it to the Conservation Department upon the completion of each individual project. Upon receipt of this itemized cost list, the Conservation Department reimburses the Highway Department for the actual costs incurred.

MAINTENANCE OF AREAS

Before final approval is given for the development of an access area, local county or city officials must sign an agreement to maintain the access area following its development. Costs of major repairs such as the replacement of prefabricated concrete slabs would be borne by the Conservation Department.

COSTS

A total of 44 access areas have been completed or are now being constructed under a cooperative agreement between the Alabama Department of Conservation and the Alabama Highway Department. The total estimated cost of these 44 areas was $269,000.00. The final cost will probably be somewhat less. The average cost for the development of each area has been about $6,000.00. The range has been from $2,000.00 when constructed on public waters located

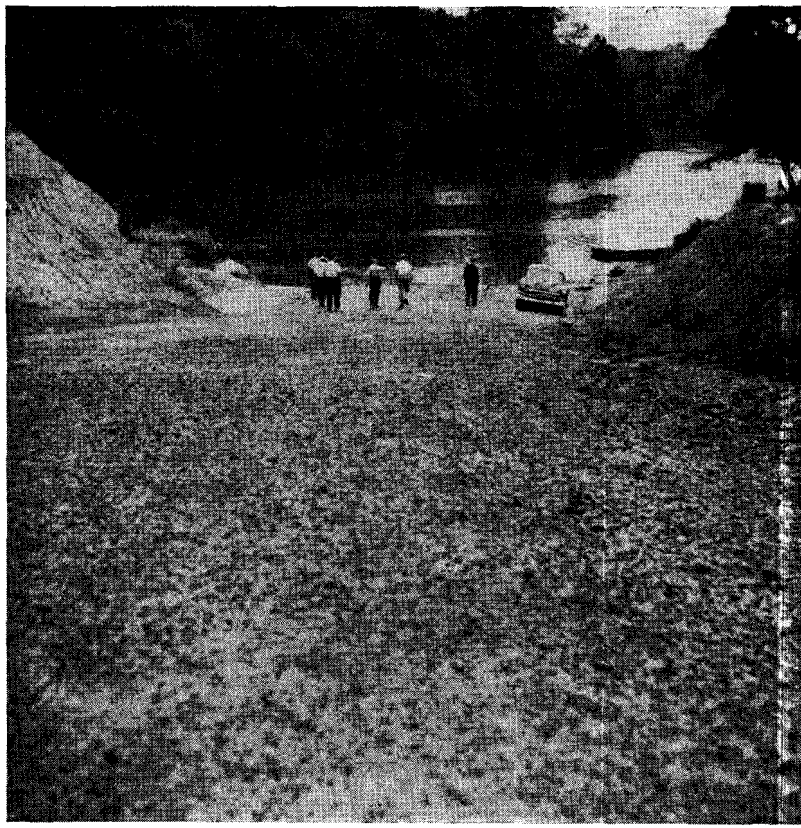

Figure 4. Access to river with high banks

adjacent to State Highways to $14,000.00 when constructed on rivers having high banks.

CONCLUSIONS

The development of fishing access areas under a cooperative agreement between the State Conservation and State Highway Departments of Alabama appears to be a practical and economical method of supplying one of the greatest needs of the State's fishermen. Public waters are of little value to fishermen when they cannot be reached because of inadequate access.