ANALYSIS AND IMPLEMENTATION OF LAKESHORE MANAGEMENT METHODOLOGIES

By

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INTRODUCTION

General

The Corps of Engineers is charged with the responsibility to manage and protect the shorelines of all lakes under its jurisdiction. This responsibility requires the Corps to properly establish and maintain acceptable fish and wildlife habitat, aesthetic quality and natural environmental conditions and to promote the safe and healthful use of these shorelines for recreation purposes for all the American public.

Engineering Regulation, ER 1130-2-406, Lakeshore Management at Civil Works Projects, published on 13 December 1974, provides policy and guidance on the protection of desirable environmental characteristics of Civil Works lake projects and restoration of shorelines where degradation has occurred through private exclusive use. This regulation requires that a Lakeshore Management Plan be prepared for each Corps lake project where private recreation facilities existed as of the date of the regulation. The regulation also provides that private exclusive use will not be permitted on new lakes or on lakes where no private facilities or uses

existed as of the date of the regulation. On lake projects meeting the condition stated above, Lakeshore Management Plans are not required, nor will private exclusive facilities or uses be permitted except to honor past commitments.

In essence, the regulation's impact on the Tulsa District, U.S. Army Corps of Engineers, required that, of the 30 lakes under operation and maintenance as completed projects on the date of the regulation, 12 projects must have Lakeshore Management Plans prepared for them. The projects which required these plans are listed in Table I with pertinent data for each shown in Appendix A. This thesis will deal in detail with the development and final formulation of these plan methodologies.

Background Information

Private exclusive uses of public property around the shorelines of the Corps lake projects in the Tulsa District did not develop overnight. It had a slow, inauspicious beginning, quite apart from the purposes for which the projects were constructed. The earlier Tulsa projects (Fort Gibson, Denison and Tenkiller Ferry to cite a few) did not consider recreation as a project purpose as lake recreation was virtually non-existent. Therefore, in the project justification stage, benefit-cost data for recreation was not included and this feature was not included in the Project Authorization Documents passed by the Congress of the United States, which eventually led to Federal funding

necessary for construction.

Recreation development around the lakeshores by the Corps was minor, providing little more than access to the lake waters. The boats and motors available during the period were cumbersome to load and unload, necessitating development of commercial concession operations. These activities provided a place on the lake where services, as well as boat storage, could be purchased by lake users. During this period also, the recreation vehicle and camper equipment known today had not been developed.

Further encouragement of lake use was vitally needed and was supplied by development of cottage and home sites on public property. During the early stages of this program, many people elected to build a home or cabin on the lots available. Most of the cottage and home site areas were individually owned. As an additional part of encouraging the public to use the lakes, easy opportunities were provided for people who owned lake front sites with cabins or homes to obtain permits to build private floating recreation facilities along the shoreline. Others were given permits to clear and mow the public land remaining between their property and the lake. This type of permit action made the lakeshore living conditions attractive.

During the nineteen sixties, recreation development of Corps projects really began on a large scale and for the first time recreation was included as a project purpose in the justification for new projects. Factors which have

contributed greatly to increased recreational usage are ease of access, luxury facilities and the development of new equipment. Ease of access to the lakes has been improved by the addition of the interstate highway system and vastly improved state highways and secondary road networks. Luxury items, such as hot showers, electrical hook-ups, sanitary trailer dump stations, consistent trash pick-up service and park mowing, have contributed significantly to increased camper experience and increased visitation.

During the past several years in the Tulsa District, visitor day counts have been rising at about six to seven percent per year. The total visitation in 1976 was approximately 50 million, with four of the Tulsa projects in the top fifteen nation-wide. Increased leisure time and greater affluence have contributed their share toward bringing more visitors to the lakes than the facilities and resources available can reasonably handle. From this realization came the concept of Lakeshore Management Plans.

Development of the Lakeshore Management Regulation

By the summer of 1972, several applicable portions of existing regulations and Public Laws resulted in preparation of a draft regulation for Lakeshore Management. Based on the direction and guidance furnished in the draft regulation, a proposed Lakeshore Management Plan was developed for Tenkiller Ferry Lake which will be used as a basis for

a case study in this thesis.

The draft regulation required that any private floating recreation facility not located in an area allocated for such structures and facilities must be removed from the lake or moved to such an allocated area within a specified period of time. The public desire was for the facilities to remain at their present locations regardless of the allocation classification.

This draft regulation was revised by the Chief of Engineers in Washington. Based on the experience of the Tenkiller meeting, a grandfather clause was added to allow all private floating recreation facilities to remain at their present locations. The proposed regulation was published in the Federal Register in late May, 1974, with a public comment period of 45 days thereafter. Several hundred comments for consideration were provided and evaluated prior to formulation of the final wording and specific requirements of the Corps of Engineers Engineering Regulation, ER 1130-2-406 published on 13 December 1974.

Organization of This Thesis

The organization of this thesis is intended to show briefly what the problems were and how the Lakeshore Management Plans were formulated to meet the challenge of preserving the lake resources for future generations. It is also intended to show how the regulation was interpreted and applied in the development and formulation of those plans.

TABLE I

LAKE PROJECTS REQUIRING LAKESHORE MANAGEMENT PLANS

1.	Council Grove Lake, Kansas	7.	Hulah Lake, Oklahoma
2.	Denison Dam-Lake Texoma, Oklahoma and Texas	8.	Keystone Lake, Oklahoma
3.	Eufaula Lake, Oklahoma	9.	Millwood lake, Arkansas
4.	Fall River Lake, Kansas	10.	Tenkiller Ferry Lake, Oklahoma
5.	Fort Gibson Lake, Oklahoma	11.	Toronto Lake, Kansas
6.	Heyburn Lake, Oklahoma	12.	Wister Lake, Oklahoma

CHAPTER II

LITERATURE REVIEW

General

The fundamental goal of Federal participation in resource development is to insure that an optimum contribution is made to the welfare of all the people. The achievement of these goals in water resources management are usually long range in nature where effective incentives are lacking for free enterprise development. Legislative enactments reflect national priorities and require progressive adaptation through the executive agencies of the government.

Rigid policies are undesirable when dealing with resources which affect the well-being of people because of economic, environmental and social implications. The laws governing agency activities permit some latitude in developing specific plans and courses of action to comply with Congressional intent and administrative policy governing operational activities.

The Corps of Engineers has published many directives, regulations, manuals and other pamphlets concerning the policies adopted by the Congress to achieve the stated objectives. Engineering Regulation, ER 1130-2-406, Lakeshore

Management at Civil Works Projects, a single, complex guidance manual, is the product of many Federal Laws charging the Corps of Engineers with certain functions, authorities and responsibilities and which was developed to deal with a particular set of operational activities.

Principal Laws and Regulations

Section 4 of the Flood Control Act of 1944, Public Law 87-874, broadly charges the Chief of Engineers to operate and maintain water resources projects in the public interest. Public Law 86-717, Forest Conservation, provides the authority necessary to exercise good conservation practices which will promote recreation, conservation and other beneficial uses. It is within the scope of these laws that consideration of all forms of benefits, such as recreation, aesthetics and fish and wildlife is applied to the management of public lands and waters to provide maximum benefits to the using public. This is reflected in the Lakeshore Management Regulation as a limiting control on private exclusive use activities while maximizing the lake shoreline available for public use and enjoyment.

Executive Order 11752, dated 17 December 1973, entitled Prevention, Control, and Abatement of Environmental Pollution at Federal Facilities directs that the Federal Government shall provide leadership in the nationwide effort to protect and enhance the quality of air, water and land resources. This order requires compliance with applicable

standards for the prevention, control and abatement of environmental pollution. This order is reflected by the regulation requirements for limitations on vegetative alterations to public lands, by preservation of areas which are aesthetically pleasing and by limiting the density of development allowable for private floating recreation facilities in areas selected for such purposes.

The National Environmental Policy Act of 1969, Public Law 91-190, directs that Federal agencies improve and coordinate plans, functions, programs and resources to the end that the nation may: (1) Fulfill the responsibilities of each generation as trustees of the environment for succeeding generations; (2) Assure for all Americans a safe, healthful, productive, aesthetically and culturally pleasing surroundings; (3) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences. In essence, NEPA requires the regulation to include area allocations designed primarily to protect and preserve aesthetic, environmental and fish and wildlife values and to use practical means to establish and achieve a better balance between population and resource use.

The Act of 31 August 1951, 31 USC 483a, and previously mentioned Public Law 87-874 provide the authority necessary for establishment and collection of an administrative charge for Lakeshore Use Permits. The charges have been included in the regulation for all activities requiring a Lakeshore

Use Permit to help defray the expenses associated with issuance and administration of the permit.

Title 36, Chapter III, Part 327, Code of Federal Regulations, Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers, provides the authority necessary for the issuance and enforcement of Lakeshore Use Permits. The required permit form and conditions of the permit have been included in the lakeshore regulation. In addition, the lakeshore regulation, ER 1130-2-406, has been added to and has become a part of Title 36.

The Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, established a program designed to achieve a national goal of elimination of pollutant discharges by 1985. The Environmental Protection Agency (EPA) has the primary responsibility for implementing this program. However, under Section 404, the Corps of Engineers retains the primary responsibility for issuing permits to discharge dredged or fill material into navigable waters. Other activities such as dredging, construction of fixed structures or other work in or over navigable waters of the United States will be permitted under conditions specified in permits issued under authority of Section 10, River and Harbor Act of 1899, 33 USC 403. Such permits will be issued in accordance with Title 33, Code of Federal Regulations, Part 209.120, Permits for Work in Navigable Waters or Ocean Waters. Issuance of Lakeshore Use Permits for the types

and kinds of activities described above are prohibited in the lakeshore regulation.

Although not specifically referenced to existing laws, all commercial development activities and all activities by individuals which are not covered in the lakeshore regulation and involve changes in land form or land-based support facilities will be covered by lease, license or other legal grant issued by the Real Estate Directorate.

As of this date there is nothing in the Literature or lake regulation, concerning implementation of environmental plans and their consequences.

CHAPTER III

DEVELOPMENT OF LAKESHORE MANAGEMENT PLANS

General

During the planning stages of a Corps of Engineers lake project, a Master Plan of Development is prepared and approved as a guide for the orderly development of the recreation facilities and features which are considered essential to provide for the general public needs and welfare. When the construction stages of the project are completed, the project then enters the operational stage which requires the preparation and approval of several operational appendices which are added to the Master Plan as working tools for specific features of the project.

The Lakeshore Management Plans are required to include area allocation maps, related rules and regulations, a time phase plan for managing the lakeshore, descriptions of recreational waste management systems and sanitary facilities, and other information pertinent to the effective management of the lakeshore. In order to logically analyze those activities on the land and water areas of each project, appropriate guideline criteria were developed.

Development of Criteria for Lakeshore Allocation

The entire lakeshore of each project had to be examined and allocated within the allocation classification system described below. In addition, specific constraints and areas having unique characteristics not identified below may be added to the allocation classification system.

Limited Development Areas

Limited Development areas are those areas where private exclusive use priviledges and facilities may be permitted.

Public Recreation Areas

Public Recreation areas are those areas previously reserved in the Master Plan of Development as developed recreation sites or designated future recreation development sites. On shorelines within or proximate to designated or developed recreation areas, private floating recreation facilities will not be permitted. The extent of the term, proximate, depends on the terrain, road system and similar factors. George E. Fogg (1975) discusses activities and park layout which may take advantage of the land and water features both within and adjacent to public parks. Commercial concessionaire facilities are permitted in these areas. An adequate buffer area within this allocation type will be established to protect the concession operation from inva-

sion by private exclusive use facilities. Modification of land form or vegetative characteristics will not be permitted by individuals in these areas.

Protected Lakeshore Areas

Protected lakeshore areas will be designated primarily to protect aesthetic, environmental, fish and wildlife values. Lakeshores may also be designated in this category for physical protection reasons, such as heavy siltation, rapid dewatering or exposure to high winds and currents. Land access and boating will be permitted along these lakeshores, provided aesthetic, environmental and natural resource values are not damaged or destroyed, but no private floating recreation facilities will be moored in these areas. Modification of land form or vegetative communities by individuals will be permitted in these areas only after due consideration of the effects of such action on environmental and physical characteristics of the area.

Prohibited Access Areas

These lakeshores will be allocated for protection of ecosystems or the physical safety of the recreation visitors; for example, unique fish spawning beds, certain hazardous locations, and areas located near the dams or spillways. Mooring of private floating recreation facilities and modification of land form and vegetative communities will not be permitted in these areas.

Other Considerations

One of the objectives of the Corps of Engineers is to encourage maximum storage of boats and related equipment at commercial concession areas. Through this effort, the Corps strives to minimize the number of shoreline developments which could prove to be aesthetically distracting, unreasonably injurious to the environment or limit the free and easy use of public property by the general public. Another objective will be to insure that private floating recreation facilities will be located in areas that do not have reasonable access to commercial marina services. Such areas, insofar as practicable, will not be in conflict with the preservation of the natural characteristics of the shoreline. Private floating recreation facilities will be permitted only in areas of the lakeshore which have been allocated as Limited Development classification and where the density of development for a specific area does not exceed 50% of the area allocated for such use. Another consideration required that discretion be used in preparation of the allocation maps to provide for the protection of public lands and private investments and to honor any past commitments which may have been made.

Specific Criteria

Based on the general guidance furnished above, specific criteria was developed for surveying the entire lakeshore

at each project. The main purpose of the surveys was to determine all the water areas on the lake suitable for allocation as Limited Development classification subject to the following conditions and restraints:

(1) Exclude all developed and designate future recreation areas (Allocate as Public Recreation).

(2) Exclude all club and quasi-site lease areas (Allocate as Public Recreation, except note as leased area). These are areas which are leased to organizations such as the Boy Scouts, Girl Scouts, and church groups for group recreation activities. Activities and priviledges available to the lessee's is a matter of written record and as a past commitment, these areas will not be allocated in the lakeshore management plan until such time as the area is no longer in a lease status.

(3) Exclude all areas near the spillway, dam or other related structures (Allocate as Prohibited Access).

(4) Exclude all areas subject to high winds, wave action from long fetches, or river currents in the upper reaches of the lake (Allocate as Protected Lakeshore). This particular consideration was readily applied as meaning any shoreline on the main body of the lake. In other words, only coves and protected areas could satisfy the requirement of providing physical protection to the private floating recreation facility.

(5) Exclude all areas subject to physical constraint for water access by such natural hazards as heavy siltation,

heavy timbered or stumpy areas, known rocky areas and areas with severely eroded sections of shoreline (Allocate as Protected Lakeshore).

(6) Exclude all areas with insufficient water depth available at the 10-year drawdown stage of the lake or an alternate depth established by the project manager based on lake experience (Allocate as Protected Lakeshore). The primary concern was to locate those areas for private floating recreation facilities so that when low lake levels do occur, the facilities will not bang or crush against one another and will still be accessible by water.

(7) Exclude all state and Federal wildlife management areas (Allocate as Protected Lakeshore). These type of areas were generally viewed as prior commitments.

(8) Exclude all areas with obvious scenic (aesthetic), fish and wildlife or environmental values (Allocate as Protected Lakeshore).

(9) Exclude suitable buffer zones of at least 500 yards or line of sight (whichever is greater) between Limited Development and Public Recreation classifications and along major highways (no lower than state classification). Buffer lengths could be less than that specified based on the terrain, road system and other similar factors. Inclusion of buffer zones would eliminate aesthetical distractions along heavily used shoreline areas (Allocate as Protected Lakeshore).

(10) Exclude all areas within one mile by road access

to all commercial concession operations (Allocate as Protected Lakeshore). This consideration would encourage maximum usage of the concession facilities and would not infringe on a concessionaire operator's reasonable expectation of making a profit on his investment.

In addition to the lakeshore surveys, land surveys were required to determine the exixting uses of private lands and the potential for home site development of those lands. Road access to public land was also required so that if an area was allocated as Limited Development, the means of ingress and egress would be known. The field report was to include the following additional information;

(1) Spot depths around the entire shoreline, except in Public Recreation and Prohibited Access area classifications.

(2) The location of each existing private floating recreation facility on the lake, complete with the name, address, permit number, a physical description of the facility, the condition and type of structure and the water depth at or near the structure.

(3) Measurements showing the length of shoreline available for private floating recreation facilities in each Limited Development area.

The schedule for submittal of an initial proposed Lakeshore Management Plan is as shown in Table II, Appendix B.

CHAPTER IV

PREPARATION OF LAKESHORE MANAGEMENT PLANS

Public Involvement

Any Federal program, such as Lakeshore Management, requires public participation and involvement to the maximum extent practicable in the formulation and preparation stages, consistent with applicable laws, regulations, and other published directives. Langer and Dweck (1973) discuss how to increase awareness by skillfully obtaining and using information to exercise control over a situation. The public involvement stage must be recognized as a continous, two-way communication process that is essential for effective planning. This process involves promoting public understanding, keeping the public informed and actively soliciting citizen opinions on the issues, concerns and objectives of the program under study. Special efforts must be made during this stage to identify the publics involved, such as congressional interests; local citizen groups or organizations; conservation organizations; Federal, State and local resource management agencies; the public at large; and adjacent landowners. Dugan (1975) discusses how to

identify and keep the publics informed.

Schedule For Completion of Lakeshore Management Plans

A tentative schedule for the public participation meetings was established prior to issuing the specific criteria to the field for the initial preparation of the Lakeshore Management Plans. This schedule was used as a guide to establish the dates for the field survey and report submittals. A typical flow diagram, as shown in Figure 1, was prepared in order to determine the major activities required in preparation of the final plan. A schedule of all activities for all 12 plans was then prepared, as shown in Table II, Appendix B.

Before the public meeting date for Tenkiller, several events had occurred which required revisions to the schedule. The lake association group for Tenkiller, which was formed after the February 1974 meeting, was probably the only organized group available for pre-public meeting consultation. These mini-meetings were programmed to keep the public abreast of the development of the proposed plans and to gain needed input into the lakeshore plans. The mini-meeting efforts, for the most part, fragmented into isolated instances of interested individuals coming to discuss the program and the associated impacts on them personally. Very little effective two-way communication was established through the mini-meeting process. The schedule for comple-

tion of the plans afforded little opportunity to locate many interest groups for discussion sessions.

Another factor which developed as a result of the tight schedule, was that too many activities were programmed for the manpower available to do the work. This feature required postponing of the preparation of the final plans until all the public meetings were completed.

Proposed Plans

The beginning stage for every proposed plan was to completely review the surveys and reports furnished by the field. The primary purpose of the detailed review period was to verify that all data had been collected and reported consistently from lake to lake in accordance with the criteria. Irregularities were resolved with the field managers after completion of the review. A final lake survey was then conducted to verify the soundness of the criteria logic as applied to a particular lake. The statistics for each proposed lakeshore allocation are tabulated in Table III, Appendix B. These figures represent those proposed at the time of each public meeting. Any private floating recreation facility not located in a Limited Development area allocation or in a Public Organization area allocation was subject to the provisions of the grandfather clause.

Development of Clarifications

Several specific features of the regulation required

clarification prior to the public meetings. The purpose of these clarifications was intended to provide uniform interpretations for the public from meeting to meeting. A grandfather rights provision was provided in the regulation largely as a result of the 1974 Tenkiller meeting. It appeared that, based on the public reaction and response generated from that meeting, many of those present wanted to retain their private floating recreation facility at its existing location for their lifetime.

Grandfather Rights Provision

All private floating recreation facilities which are not located in Limited Development areas are protected under the provisions of the grandfather rights provision. This provision provides that the facility will remain under permit until replacement is required, or until death of the permittee or until sale or cessation of use of the facility by the permittee. The grandfather provision is to extend for that period of time that the facility will pass annual inspections without major repair by the permittee. At that time the facility will be removed or repaired and relocated to an approved Limited Development location by the owner under a new permit.

The regulation did not clearly define the application of this provision for the various classes of ownership. Clarification was developed to cover individually owned structures, multi-owned structures, corporate owned struc-

tures and public organization or club owned structures.

Public Organization Lease Areas

The regulation did not address how to allocate Public Organization lease areas. It was determined that under the terms of the regulation these areas would remain unallocated until such time as a valid lease or license was no longer in effect for the area. Upon expiration of the lease, that portion of the shoreline included in said lease would be allocated in accordance with the criteria used at the time the plan was formulated, and the grandfather rights provision applied accordingly.

Damage to Structures Under the Grandfather Provision

The regulation did not define what constituted major repair to a structure subject to the provisions of the grandfather clause. The determination of major damage was placed at the discretion of the project manager to reach a satisfactory decision with the permittee. If the structure is damaged to the extent that major repair is necessary, whether such damage is caused through neglect, accident or act of nature, no new permit would be issued.

Permit Conditions

Previous permits issued in the late nineteen sixties for private floating recreation facilities contained about

ten permit provisions. Permits re-issued in 1974 contained about sixteen provisions. The regulation contained several additional provisions and re-worded some of the previous conditions. In order to prevent any misunderstandings later, the new permit conditions, as shown in Appendix D, were distributed to each person attending the public meetings.

Approval and Implementation

The final plans were prepared and submitted for approval to the Southwestern Division Engineer. These plans were prepared as Appendix F to the Master Plan of Development in a format prescribed by the approving authority. Distribution of the approved plans was completed so that implementation could be effective on 1 June 1976.

The Lakeshore Management Plan implementation procedure consisted of a news conference and an announcement to the news media that the plans were being implemented, effective on that date. In addition, each of the affected dock owners placed under the grandfather rights provision were notified by individual letter which fully described the options available to them as owners in that status. Copies of the Option Statements are shown in Appendix C.

The Lakeshore Management Plans are not available for public distribution. However, they are available for review at the project offices and at the Tulsa District office.

1. Complete Criteria For Field Surveys and Reports
2. Complete Field Survey and Report
3. Complete Field Data Review
4. Complete Final Lake Survey
5. Complete Preliminary Plan for SWD Review
6. Complete Mailing List
7. Complete Preparation of Notice of Public Meeting
8. Complete Advance Congressional Notice of Meeting
9. Complete Public Notice Mailing
10. Complete SWD Approval Preliminary Plan
11. Complete Mini-Meetings
12. Complete Final Decisions on Proposed Plan
13. Complete Art Work
14. Complete Overlays
15. Complete Slides for Presentation
16. Complete Presentation
17. Complete Reproduction
18. Complete Dry Run of Public Meeting
19. Final All Preparations
20. Conduct Public Meeting
21. Complete Comment Period
22. Complete Comment Considerations
23. Complete Final Plans
24. SWD Approval of Plan
25. Complete Implementation

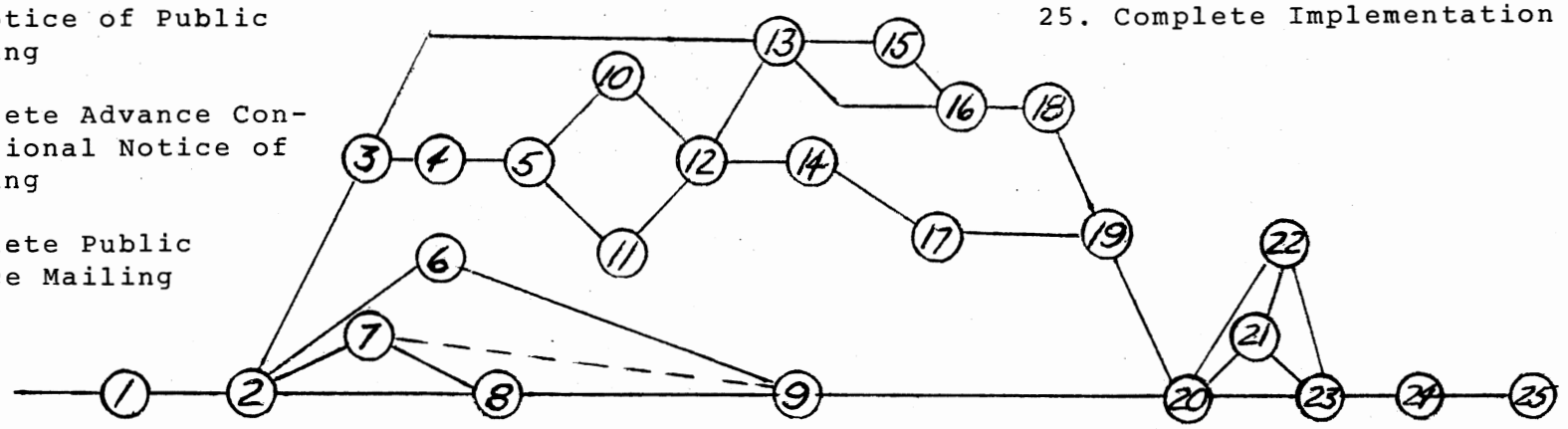

Figure 1. Typical Flow Diagram For Preparation of Lakeshore Management Plans

CHAPTER V

CASE STUDIES

Notification of Interested Parties

The public was notified of the public participation meeting for each particular lake 30 days in advance of the meeting date. Each private floating recreation facility owner was notified individually. Other notices were sent to newspapers, radio and television stations, post offices, mayors, Federal, State and local agencies, and known conservation groups and organizations. Most public meetings are advertised in the latter manner and, as a result, are usually poorly attended by the public at large. For the most part, this was true at the Lakeshore Management meetings. However, many of the private floating recreation facility owners were in attendance. From the Corps point of view, this was good because of the expected input on the direct impacts of the proposed plans from those most directly involved.

The attendance at these meetings was good as compared with most other public involvement sessions. The approximate number of people in attendance were as follows: Tenkiller, 200; Fort Gibson, 275; Millwood, 50; Keystone,

80; Hulah, 40; Fall River, Council Grove, Toronto, 100; Eufaula, 450; and Denison, 500.

Presentation

The format of each meeting consisted of a formal presentation of the proposed Lakeshore Management Plan to those present. This presentation covered some of the statutory and regulatory authorities which were used to formulate the Lakeshore Management Regulation, slides and narrative descriptions of the various lakeshore allocations and the criteria used in the formulation of the proposed plans. Additional slides and narrative descriptions were provided for each Limited Development area allocation. These slides illustrated in detail the linear feet of shoreline space available for private floating recreation facilities, the water depth, a portion of the aerial photos showing access, and the area within the cove most suitable for the structures. In addition, maps showing each proposed allocation, and the categories of allocation, the grandfather rights provisions and applicability to each type of ownership and the conditions for Lakeshore Use Permits were available to the public as handouts. These materials provided a ready reference during the comment period.

After the formal presentation of the proposed plan, the meetings were open to the floor for comments, questions or discussion. These proceedings follow a prescribed order which recognizes the political representatives first,

followed by other groups, agencies or individuals who have indicated a desire to present or turn in a formal statement. After these are finished, any individual wishing to speak is afforded the opportunity to do so. In addition, a 30 day period was provided beyond the meeting date so that the public would have ample time and opportunity to fully evaluate the proposed plan and make comments accordingly.

Results of Public Participation

A transcript for record purposes was prepared from the tapes for each public meeting. In addition to the transcripts, several hundred separate pieces of correspondence were received during the 30 day comment period concerning the proposed Lakeshore Management Plans. By the time the Denison meeting was completed in July, several very active lake associations had been formed and were on record as being against the proposed plans. From all the materials described above, the Corps of Engineers received less than ten requests for alterations or reconsiderations for specific changes to the proposed plans. A few of the conservation groups, such as Ducks Unlimited, Inc., The Oklahoma Wildlife Federation, the Scenic Rivers Association, and the Sierra Club-Oklahoma Chapter and a few individuals went on record as being in support of the proposed plans.

Most of the comments, whether written or oral, were in opposition to the proposed plans. This opposition concerned primarily the regulation itself and the application

of Corps interpretation to each lake involved in the program. After a thorough search of all the correspondence and transcripts, the following items are considered to be by the writer as the main points of opposition and/or disagreement which had to be resolved in order to have a successful Lakeshore Management program.

Public Reaction

The items listed below are specific objections which tended to become a recurring theme raised again and again in each contact with the public.

1. There is unequal treatment between those private floating recreation facility owners whose docks can remain in perpetuity in Limited Development areas and those whose docks must eventually be removed or relocated after expiration of the grandfather rights provision.

2. There is inequity between individually owned, multi-stall:multi-owned, and corporation owned docks when concerned with the life length of each owner placed under the grandfather rights provision.

3. There is an imbalance between concern for the environment and concern for economic development. The Corps is sacrificing the latter for the former by not providing enough distribution of Limited Development areas from one end of the lake to the other; providing sufficient allocated shoreline in the areas already selected; and providing roads for ingress and egress to the areas selected for docks.

4. The Corps is reneging on past commitments, because those people who received real estate out-grants for tramways and those who received permits in the past to construct and install docks (sometimes at considerable expense), were never told that these types of out-grants or permits would never be routinely renewed upon expiration.

5. There is no provision for financial compensation to individuals either for the costs of removal or relocation of their docks or for the loss to private property value which may result from not having an area for Limited Development adjacent to ones property.

6. The proposed plans prohibit private floating recreation facilities in areas near or proximate to commercial concession operations. Some operators and individuals feel that the docks are an asset to the concession operation. This allows the operator to derive income for surveillance, maintenance and general upkeep of the docks and other services required by the dock owner. This income helps sustain the economic viability of the concession operation.

7. The fifty percent maximum density requirement for Limited Development areas is not a necessity because once an area has been despoiled by docks, there is no reason environmentally not to allow development to the maximum extent physically practicable.

8. There is unequal treatment in the regulation which does not allow renewal of permits for docks under the grand-

father rights provision and which have sustained major damage as compared with the permit renewal and damage repairs for docks which are allowable in Limited Development areas.

9. The grandfather rights provision should apply to the life of the structure, not to the life of the permittee. In other words, let the dock remain in perpetuity with the rights and priviledges of a Limited Development area dock, but, in addition, allow addition of heirs names to the permit and remove the damage clause.

10. There is no reason the permit document itself should not be transferable. This was thought by many to be an additional requirement not heretofor included in the permit document. However, in reality, this provision has always been a permit condition.

Other public responses to the proposed plans included extensive proposed changes to the regulation. These responses were forwarded to the Office of the Chief of Engineers in Washington, DC, as field offices at the District level are not authorized to change or otherwise alter any regulation. Another proposal was to establish a definite time period (49 years was the term most frequently discussed) for expiration of the grandfather rights provision. Still another proposal was to allocate ten to fifteen percent of the total shoreline of each lake for Limited Development. A different view of that proposal was to establish a maximum allocation figure, attainable ultimately by allowing a small percentage increase in Limited Development

allocation yearly to accommodate future sub-division development around the lakeshore.

As should be evident at this point, final Lakeshore Management Plans could not or would not be completed until resolution of the adverse public response and reaction to the program. It was time to re-examine and reconsider the Corps and public positions in order to determine a course of action which could lead to a settlement of the problems while leading toward the development and formulation of final Lakeshore Management Plans.

CHAPTER VI

PUBLIC INPUT ON DEVELOPMENT AND PLANS IMPLEMENTATION

Reexamination of Problems

The reexamination of the problems which resulted in public opposition to the proposed Lakeshore Management Plans lead to the following conclusion. The apparent violation of not pursuing active public involvement in all phases of the development of the proposed Lakeshore Management Plans, beginning with the specific criteria development and continuing through the public participation stage, resulted in much of the unnecessary misunderstanding during and following the public meeting stage. With this recognizable factor in mind, the next step was to meet with representatives from the various lake associations and groups for a further discussion of the principles and issues involved in Lakeshore Management planning. Goldhaber (1974) discusses the effective principles and techniques for group communication. The purpose of such meetings had to have as its ultimate goal; the resolution of Lakeshore Management problems. Mescon, Hammond, Byars and Foerst (1973) discuss the prin-

ciples and characteristics of effective leadership as applied to group situations.

Mini Meetings

From the initial meetings, a series of mini meetings was held with each group representing their particular lake. Each lake group or association was encouraged but not required to have a committee representative of most lake interests, including environmentalists, congressional representatives, boat dock owners, real estate developers, or whomever they chose. The general trend of these mini meetings was that the Corps of Engineers personnel would be available to meet anywhere and at anytime convenient to the lake association group. Although unintended, these mini meeting sessions seemed to fit a logical pattern from lake to lake.

First Mini Meeting

For the first mini meeting, the Corps was to provide maps of the lake, aerial photos of the lake and copies of the lakeshore regulation. The maps which were previously prepared by the Corps showing the proposed plan as it was presented at the public meeting were available for ready reference. For the most part, the first meeting was a working session which was to afford the lake association group ample opportunity to develop their concept of a proposed Lakeshore Management Plan. There were, generally,

only two or three mutually agreeable criteria for the first meeting. These criteria were basically ones which involved the group expertise of showing on the maps areas of known aesthetic value and areas for Limited Development. After the group had completed their concept plan, the first meeting was adjourned. For comparative purposes, the resident engineer and his representatives prepared similar maps showing only the areas of known aesthetic value. These aesthetic value areas were considered to be worthy of retention in their natural state.

During the period between the first and second mini meetings, two sets of maps were prepared for further discussion and comparison purposes. One set of maps represented the lake group concept and one set represented the Corps concept. An itemized, detailed list was then prepared which represented all known items of divergence between the lake group and the Corps. When this phase was completed, a second meeting was scheduled to discuss and resolve as many divergent points as possible.

Second Mini Meeting

During the second mini meeting, the past frustrations associated with Lakeshore Management began to be replaced with open, two-way communication and compromise essential to the development of a sound program. Some of the items which were resolved during this meeting are as follows:

1. The Prohibited Access areas shown by the Corps

were acceptable to both groups.

2. The limits of designated or developed Public Use areas shown by the Corps were acceptable to the lake group. The grandfather classification of the docks in these areas was not acceptable by the group.

3. The Public Organization area allocations shown by the Corps were acceptable to the group as well as the disposition of the docks. It was explained fully to the group that these areas and the docks in question were exempt from the program at this time because of existing lease agreements between the lessee and the Corps. It was further explained that these areas would not be allocated under the lakeshore program until such time as the lease had expired or was not renewed.

4. Any area, with only minor exceptions, selected by either the lake group or the Corps as having known aesthetic value were mutually acceptable to both groups. Docks located in such areas were acceptable under the grandfather rights provision.

5. Coves already designated by the Corps on the previous proposed plans were accepted by the lake group. Generally speaking, the Corps reexamined each of the Limited Development areas previously shown and concluded that sufficient water depth, based on some hypothetical pool elevation, was no longer a valid criteria. The consensus of opinion by the lake group was that a place to put a dock was more important than water depth, particularily if docks

were already existing in the cove. For the most part, the full shoreline of a cove was included rather than just the suitable reaches previously shown. This action, in many instances, negated the condition of density of development in excess of the fifty percent maximum allowable by the regulation. However, the regulation requirement for the density of development of a particular cove was retained to be in compliance with the regulation. The lake group accepted this position with minor reservations.

6. The Corps was, in a limited capacity, agreeable with the lake group's concept of a better balance of Limited Development areas distributed around the lake. However, the Corps was not in full agreement with all the areas desired by the lake group,particularily in coves with no present docks and in areas where actual associated land activity warranted such exclusion. The lake groups, in some instances, did relax their position but did not fully agree with the Corps.

7. The Corps was not in total agreement with the lake group concerning those areas selected to provide for existing docks along the main body of the lake which were subject to wind and wave action.

During this meeting was when most of the basic fundamental issues regarding Lakeshore Management were discussed and each group began to understand the others' position and why. Between the second and third mini meetings, all the compromises, agreements, disagreements and positions on

issues were fully reviewed by the District Engineer.

Third Mini Meeting

After this review, a third mini meeting was held, usually in the Tulsa office, and the District Engineer went over the final decisions reached at this point concerning each plan. At that time, these were considered to be final decisions, pending receipt of further guidance and direction expected from higher authority.

Final Acceptance

The mini meeting phase of the program, which began in October, 1975, and concluded in April, 1976, was paralleled by many other meetings involving the Corps of Engineers and the lake association groups. By late March, further guidance was received from higher authority regarding the lakeshore program. This guidance allowed for maximum flexibility to develop a workable and publically acceptable application of the principles involved for implementation of the regulation without defeating the purposes and objectives of Lakeshore Management.

After a thorough evaluation of the total Lakeshore Management program, a meeting was held with the representatives of the lake associations to discuss and agree upon the final criteria for implementation.

Final Criteria

In addition to the previously agreed upon criteria, the following items were fully discussed and mutually acceptable to both groups as final criteria:

1. All docks, with one or two exceptions, on the main body of the lake would be provided for by a Limited Development allocation to accommodate, as a minimum, the existing docks provided they are not located in Public Use or aesthetic allocations.

2. Each existing dock located in Protected Lakeshore, Aesthetic or Public Use allocations which would be placed under the grandfather rights provisions would have several options applicable to it. Privately owned boatdocks in Public Use area locations may remain at their present location under the grandfather rights provisions; be sold to a concessionaire operator and leased back for a time period specified not to exceed the time remaining on the operator's lease agreement; or be moved to a Limited Development area. Privately owned boatdocks in Aesthetic or Protected Lakeshore areas may have the same options stated above plus the option of replacing their structure with a low-profile structure (no top, no sides) and securing a Limited Development space for one low-profile dock only.

3. New docks to be placed in areas which do not have docks at the time the plan is implemented will be required to have multi-owners:multi-slips with a minimum of four

slips.

4. New docks to be placed in areas which have existing docks at the time the plan is implemented will be encouraged to have multi-owner:multi-slips with a minimum of four slips. This type of dockage arrangement described here and in 3 above will constitute a wiser use of the space available as compared with single stall type dockage.

5. All new docks permitted and installed on the lakes after implementation of the plan will be the minimum size required for the boat and will be provided with open sides. The problem of security was discussed at length and chain link fencing or clear plexiglas was permissible for installation for security. A copy of the permit application form and the minimum design standards are shown in Appendix E. Open docks will not be as aesthetically distracting as totally enclosed structures and will be easier to inspect for compliance to the permit conditions.

6. The grandfather rights provision for a Corporate owned structure was revised to allow those dock owners to retain their docks at its present location until the expiration of their permits in 1979. In exceptional cases, a five year extension may be granted at that time to allow the owners additional time to make alternate arrangements for dock facilities.

Final Acceptance

The next step was to reevaluate all the individual

Lakeshore Management Plans and arrange a meeting with the lake association group to discuss the particulars of how the final criteria affected the proposed plans. In each case, the lake association group was able to accept the plan. The next phase of the process was entirely up to the lake association group. At their next regularly scheduled meeting, the group presented the proposed plan to the total membership present for acceptance or rejection. The membership voted to accept the plans in every case. The Corps was notified of the group decision and the final plan was prepared for approval and implementation. The Final Lakeshore Allocations are as shown in Table IV, Appendix B.

CHAPTER VII

SUMMARY AND CONCLUSIONS

Lakeshore Management Plans were required on twelve lake projects in the Tulsa District where private exclusive use, in the form of private floating recreation facilities and past commitments, was occurring as of the date of the lakeshore regulation (13 December 1974). Specific criteria were developed, based on the intent of the regulation, for the logical, thorough examination of the affected lake projects for the purpose of allocating the shoreline for the various types of usage allowable in the regulation. The initial specific criteris was developed without benefit of public participation. The initial allocations were based on how each segment of the shoreline met the established guideline criteria as no particular goals, objectives or percentages had been established for any of the various classification types.

Application of the specific criteria resulted in a composite one percent of the total shoreline allocation for private floating recreation facilities. In terms of numbers, only fifty-seven percent of the existing floating facilities were located in areas allocated for such facil-

ities (Limited Development areas). Presentation of this data during the public meeting phase of the Lakeshore Management program resulted in public misunderstanding, mistrust and opposition to the program. The mutual opposition by the public, from meeting to meeting, brought about the formation of lake association groups representing primarily the private floating recreation facility owners.

The Lakeshore Management program was over scheduled beyond the limitations and capabilities of the manpower and staff available to perform the work load necessary to gain much pre-public meeting involvement and acceptance by the public. For example, the public meeting phase of the program covered four months from late March to mid-July. The mini meeting phase, which should have occurred before that and did not, covered eight months from September to April.

In retrospect, in a program of this nature where the issues will have a high emotional impact on a particular segment of the public, the first preliminary phase should be to search out the public involved. This, then, should begin a public participation program which will have the opportunity to work toward mutual project goals and objectives, within the scope of applicable Federal laws and/or regulations. A program developed in such fashion would include all the public participation and interaction

necessary to ultimately develop plans through negotiation and compromise which are acceptable to the public and which serve the intended function and purpose of the laws and regulations.

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APPENDIX A

PERTINENT DATA, LAKE PROJECTS REQUIRING LAKESHORE MANAGEMENT PLANS

PERTINENT DATA, LAKE PROJECTS REQUIRING LAKESHORE MANAGEMENT PLANS

Project

Council Grove Lake

Authorization. Flood Control Act approved 17 May 1950. (Project Document HD 442, 80th Congress, 2nd Session.)

Location. Mile 449.9 of Grand (Neosho) River, 1-½ miles northwest of Council Grove Kansas, and 75 miles northeast of Wichita, Kansas.

Project Purposes. Flood control, water supply, water quality control and recreation.

Lake Data.

Top conservation pool	Elev. 1270.0	Ac.	2,860
Top flood control pool	Elev. 1289.0	Ac.	5,340
Total shoreline, top of conservation pool			37 Mi.

Construction Period. Construction started in June 1960. Placed in operation in October 1964.

Denison Dam-Lake Texoma

Authorizations. Flood Control Act approved 28 June 1938. Public Law 868, 76th Congress, 3rd Session, approved 17 October 1940. Public Law 454, 78th Congress, 2nd Session, approved 30 September 1944. Public Law 273, 83rd Congress, 1st Session, approved 14 August 1953. Public Law 164, 84th Congress, 1st Session, approved 15 July 1955. Public Law 85-146, 85th Congress, 1st Session, approved 14 August 1957. Project Document HD 541, 75th Congress, 3rd Session. Public Law 282, 91st Congress, 1st Session, approved 19 July 1970.

Location. Mile 725.9 of Red River, five miles northwest of Denison, Texas.

Project Purposes. Flood control, water supply, power, regulating flows of Red River and improving navigation.

Lake Data.

Bottom of power pool	Elev. 590.0	Ac.	-
Top of power pool	Elev. 617.0	Ac.	89,000

Denison Dam-Lake Texoma (Continued)

Top flood control pool	Elev. 640.0	Ac. 143,300
Total shoreline, top power pool		585 Mi.

Construction Period. Construction started in August 1939. Placed in operation in January 1944. Commercial power generation started in March 1945.

Eufaula Lake

Authorization. River and Harbor Act approved 24 July 1946. (Project Document HD 758, 79th Congress, 2nd Session.)

Location. Mile 27.0 of Canadian River, about 12 miles east of Eufaula, Oklahoma.

Project Purposes. Flood control, water supply, power and navigation.

Lake Data.

Bottom of power pool	Elev. 565.0	Ac. 46,900
Top of Power pool	Elev. 585.0	Ac. 102,200
Top flood control pool	Elev. 597.0	Ac. 143,700
Total shoreline, top power pool		600 Mi.

Construction Period. Construction started in December 1956. Placed in operation in February 1964. The last generator began commercial power operation in September 1964.

Fall River Lake

Authorization. Flood Control Act approved 18 August 1941. (Project Document HD 440, 76th Congress, 1st Session.)

Location. Mile 54.2 of Fall River, about 4 miles northwest of Fall River, Kansas, and about 17 miles southeast of Eureka, Kansas.

Project Purposes. Flood control and conservation.

Lake Data.

Top conservation pool	Elev. 948.5	Ac. 2,450
Top flood control pool	Elev. 987.5	Ac. 10,500
Total shoreline, top conservation pool		40 Mi.

Construction Period. Construction started in May 1946. Placed in operation in April 1949.

Fort Gibson Lake

Authorization. Flood Control Act approved 18 August 1941. Incorporated in the Arkansas River multiple-purpose plan by the River and Harbor Act of 24 July 1946. (Project Document HD 107, 76th Congress, 1st Session.)

Location. Grand (Neosho) River, mile 7.7, about five miles north of Fort Gibson, Oklahoma, and about 12 miles northeast of Muskogee, Oklahoma.

Project Purposes. Flood control and power.

Lake Data.

Bottom of power pool	Elev. 551.0	Ac. 16,950
Top of power pool	Elev. 554.0	Ac. 19,900
Top flood control pool	Elev. 582.0	Ac. 51,000
Total shoreline, top of power pool		225 Mi.

Construction Period. Construction started in May 1946. Placed in operation in September 1953. The last of the four generators started producing commercial power in September 1953.

Hulah Lake

Authorization. Flood Control Act of 22 June 1936. (Project Document HD 308, 74th Congress 1st Session.) Public Law 843, 84th Congress, 2nd Session, approved 30 July 1956.

Location. Mile 96.2 of Caney River, about 15 miles northwest of Bartlesville, Oklahoma, and about 9 miles southwest of Caney, Kansas.

Project Purposes. Flood control, water supply, low-flow regulation and other conservation purposes.

Lake Data.

Top conservation pool	Elev. 733.0	Ac. 3,600
Top flood control pool	Elev. 765.0	Ac. 13,000
Total shoreline, top conservation pool		62 Mi.

Construction Period. Construction started in May 1946. Placed in operation in September 1951.

Keystone Lake

Authorization. Flood Control Act approved 17 May 1950. (Project Document SD 107, 81st Congress, 1st Session.)

Keystone Lake (Continued)

Location. Mile 538.8 of Arkansas River, about 15 miles west of Tulsa, Oklahoma.

Project Purposes. Flood control, water supply, power, navigation and fish and wildlife.

Lake Data.

Bottom of power pool	Elev. 706.0	Ac. 14,490
Top of power pool	Elev. 723.0	Ac. 26,020
Top flood control pool	Elev. 754.0	Ac. 55,320
Total shoreline, top of power pool		330 Mi.

Construction Period. Construction started in January 1957. Placed in operation in September 1964. Commercial power generation started in May 1968.

Heyburn Lake

Authorization. Flood Control Act approved 24 July 1946. (Project Document HD 290, 80th Congress 1st Session.)

Location. Mile 48.6 of Polecat Creek, about 11 miles west of Sapulpa, Oklahoma, and about two miles off US Highway 66.

Project Purposes. Flood control and conservation.

Lake Data.

Top conservation pool	Elev. 761.5	Ac. 980
Top flood control pool	Elev. 784.0	Ac. 3,700
Total shoreline, top conservation pool		50 Mi.

Construction Period. Construction started in March 1948. Placed in operation in September 1950.

Millwood Lake

Authorization. Flood Control Act approved 24 July 1946, as modified by Public Law 85-500, approved 3 July 1958. (Project Document HD 170, 85th Congress, 1st Session.)

Location. Mile 16.0 of Little River, about 7 miles east of Ashdown, Arkansas.

Project Purposes. Flood control, water supply, and fish and wildlife.

Lake Data.

Top water supply pool	Elev. 259.2	Ac. 29,500

Millwood Lake (Continued)

Top flood control pool Elev. 287.0 Ac. 95,200
Total shoreline, top water supply pool 87 Mi.

Construction Period. Construction started in September 1961. Placed in operation in August 1966.

Tenkiller Ferry Lake

Authorization. Flood Control Act approved 28 June 1938. Installation of power features was authorized by the River and Harbor Act approved 24 July 1946. (Project Document, Com. Doc. No. 1, 75th Congress, 1st Session. Hd 758, 79th Congress, 2nd Session.)

Location. Mile 12.8 of Illinois River, about 7 miles northeast of Gore, Oklahoma, and about 22 miles southeast of Muskogee, Oklahoma.

Project Purposes. Flood control and power.

Lake Data.

Bottom of power pool	Elev. 594.5	
Top of power pool	Elev. 632.0	Ac. 12,900
Top flood control pool	Elev. 667.0	Ac. 20,800
Total shoreline, top power pool		130 Mi.

Construction Period. Construction started in June 1947. Placed in operation in July 1952. Commercial power generation started in November 1953.

Toronto Lake

Authorization. Flood Control Act approved 18 August 1941.

Location. Mile 271.5 of Verdigris River, about four miles southeast of Toronto, Kansas, and about 17 miles west of Buffalo, Kansas.

Project Purposes. Flood control and conservation.

Lake Data.

Top conservation pool	Elev. 901.5	Ac. 2,800
Top flood control pool	Elev. 931.0	Ac. 10,000
Total shoreline, top conservation pool		51 Mi.

Construction Period. Construction started in November 1954. Placed in operation in February 1960.

Wister Lake

Authorization. Flood Control Act approved 28 June 1938. (Committee Document No. 1, 75th Congress, 1st Session.)

Location. Mile 60.9 of Poteau River, about two miles south of Wister, Oklahoma, and about seven miles northwest of Heavener, Oklahoma.

Project Purposes. Flood control and conservation.

Lake Data.

Top Conservation pool	Elev. 471.6	Ac. 4,000
Top flood control pool	Elev. 502.5	Ac. 23,070
Total shoreline, top conservation pool		115 Mi.

Construction Period. Construction started in April 1946. Placed in operation in October 1949.

APPENDIX B

TABLES II, III AND IV

TABLE II

SCHEDULE OF COMPLETION FOR LAKESHORE MANAGEMENT PLANS

Work Item	Month and Key Symbol	Work Item	Month and Key Symbol
1 Prepare criteria for field survey	13-24 Dec: All Projects	10 Mini meetings	18-26 Feb: TK
2 Field survey and report due	1 Feb: TK	11 SWD approval of prelim plan	19-26 Feb: TK
3 Review field data	1-5 Feb: TK	12 Mail public notice	26 Feb: TK*
4 Complete final lake survey	6-9 Feb: TK	13 Final decisions proposed plan	26 Feb-1 Mar: TK
5 Prepare prelim plan, SWD review	9-12 Feb: TK	14 Field survey	1 Mar: EW
6 Prepare notice of public meeting	12 Feb: TK	15 Prepare Art work	1-9 Mar: TK
7 Prepare and mail Congressional advance notice	12 Feb: TK*	16 Review field data	4-9 Mar: FG
8 Field survey and report due	15 Feb: FG	17 Prepare overlays	9-13 Mar: TK
9 Prepare mailing list	18-26 Feb: TK	18 Prepare slides	9-14 Mar: TK
		19 Prepare presentation	9-19 Mar: TK
		20 Complete final lake survey	10-14 Mar: FG

TABLE II(Continued)

Work Item	Month and Key Symbol
21 Prepare prelim plan, SWD Review	14-17 Mar: FG
22 Field survey and report due	15 Mar: MW: KH: HU: FCT: DN
23 Prepare notice of public meeting	17 Mar: FG
24 Prepare and mail Congressional advance notice	17 Mar: FG*
25 Complete reproduction	19-26 Mar: TK
26 Prepare mailing list	20 Mar-1 Apr: FG
27 Review field data	21-22 Mar: MW
28 Complete final lake survey	22-23 Mar: MW
29 Prepare prelim plan, SWD review	23-26 Mar: MW
30 Mini meetings	23 Mar-1 Apr: FG
31 Prepare notice of public meeting	24 Mar: MW
32 Prepare and mail Congressional advance notice	24 Mar: MW*
33 SWD approval of prelim plan	24 Mar-1 Apr: FG
34 Dry Run, public meeting	25 Mar: TK
35 Final preparations	25-26 Mar: TK
36 Review field data	26 Mar-1 Apr: KH
37 Public meeting	27 Mar: TK*
38 Comment period	27 Mar-26 Apr: TK
39 Consideration of all comments	27 Mar-6 May: TK
40 Preparation of Final plan	27 Mar-11 May: TK
41 Mail public notice	1 Apr: FG*

TABLE II(Continued)

Work Item	Month and Key Symbol
42 Final decisions proposed plan	1-5 Apr: FG
43 Mini meetings	1-8 Apr: MW
44 Complete final lake survey	2-5 Apr: KH
45 SWD approval of prelim plan	2-8 Apr: MW
46 Prepare mailing list	4-8 Apr: MW
47 Prepare prelim plan, SWD review	5-8 Apr: KH
48 Prepare art work	5-13 Apr: FG
49 Mail public notice	8 Apr: MW*
50 Prepare notice of public meeting	8 Apr: KH
51 Prepare and mail Congressional advance notice	8 Apr: KH*
52 Final decisions	8-12 Apr: MW
53 Review field data	9-10 Apr: HU
54 Complete final lake survey	11-13 Apr: HU
55 Prepare art work	12-20 Apr: MW
56 Review field data	13-14 Apr: FCT
57 Prepare prelim plan, SWD review	13-16 Apr: HU
58 Prepare overlays	13-18 Apr: FG
59 Prepare slides	13-18 Apr: FG
60 Prepare presentation	13-23 Apr: FG
61 Mini meetings	14-22 Apr: KH
62 Prepare notice of public meeting	15 Apr: HU
63 Prepare and mail Congressional advance notice	15 Apr: HU*

TABLE II(Continued)

Work Item	Month and Key Symbol	Work Item	Month and Key Symbol
64 Complete final lake survey	15-18 Apr: FCT	75 Final decisions proposed plan	22-26 Apr: KH
65 SWD approval of prelim plan	15-22 Apr: KH	76 Mini meetings	22-30 Apr: HU
66 Review field data	16-22 Apr: EW	77 Complete final lake survey	23-27 Apr: EW
67 Prepare mailing list	17-22 Apr: KH	78 Prepare mailing list	23-29 Apr: HU
68 Prepare prelim plan, SWD review	18-21 Apr: FCT	79 Complete reproduction	23-30 Apr: FG
69 Prepare overlays	20-24 Apr: MW	80 SWD approval of prelim plan	23-30 Apr: HU
70 Prepare slides	20-25 Apr: MW	81 Prepare art work	26 Apr-4 May: KH
71 Prepare presentation	20-30 Apr: MW	82 Prepare prelim plan, SWD review	27 Apr-4 May: EW
72 Mail public notice	22 Apr: KH*	83 Mini meetings	27 Apr-5 May: FCT
73 Prepare notice of public meeting	22 Apr: FCT	84 SWD approval of prelim plan	28 Apr-5 May: FCT
74 Prepare and mail Congressional advance notice	22 Apr: FCT*	85 Dry run, public meeting	29 Apr: FG

TABLE II(Continued)

Work Item	Month and Key Symbol	Work Item	Momth and Key Symbol
86 Mail public notice	29 Apr: HU*	98 Prepare presentation	4-14 May: KH
87 Final preparations	29-30 Apr: FG	99 Final decisions proposed plan	5-9 May: FCT
88 Final decisions proposed plan	30 Apr-3 May: HU	100 Prepare notice of public meeting	6 May: EW
89 Public meeting	1 May: FG*	101 Prepare and mail Congressional advance notice	6 May: EW*
90 Prepare mailing list	1-6 May: FCT	102 Mail public notice	6 May: FCT*
91 Complete reproduction	1-7 May: MW	103 Dry run, public meeting	6 May: MW
92 Comment period	1-31 May: FG	104 Final preparations	6-7 May: MW
93 Consideration of all comments	1 May-10 June: FG	105 Public meeting	8 May: MW*
94 Preparation of final plan	1 May-15 June: FG	106 Comment Period	8 May- 7 June: MW
95 Prepare art work	3-11 May: HU	107 Consideration of all comments	8 May-17 June: MW
96 Prepare overlays	4-8 May: KH	108 Prepare final plan	8 May-22 June: MW
97 Prepare slides	4-9 May: KH		

TABLE II(Continued)

Work Item	Month and Key Symbol
109 Prepare art work	9-17 May: FCT
110 Mini meetings	10-18 May: EW
111 Prepare overlays	11-15 May: HU
112 Prepare slides	11-16 May: HU
113 SWD approval of prelim plan	11-18 May: EW
114 Prepare presentation	11-21 May: HU
115 SWD approval final plan	11-25 May: TK
116 Prepare mailing list	12-20 May: EW
117 Complete reproduction	14-21 May: KH
118 Prepare overlays	17-21 May: FCT
119 Prepare slides	17-22 May: FCT
120 Prepare presentation	17-27 May: FCT
121 Final decisions proposed plan	18-22 May: EW
122 Mail public notice	20 May: EW*
123 Dry run, public meeting	20 May: KH
124 Final preparations	20-21 May: KH
125 Review field data	20-30 May; DN
126 Complete reproduction	21-28 May: HU
127 Public meeting	22 May: KH*
128 Prepare art work	22 May-1 June: EW
129 Comment period	22 May-21 June: KH
130 Consideration of all comments	22 May-1 July: KH
131 Prepare final plan	22 May-6 July: KH
132 Implementation	25 May-1 June: TK

TABLE II(Continued)

Work Item	Month and Key Symbol	Work Item	Month and Key Symbol
133 Dry run, public meeting	27 May: HU	145 Final preparations	3-4 June: FCT
134 Final preparations	27-28 May: HU	146 Prepare prelim plan, SWD review	4-7 June: DN
135 Complete reproduction	27 May-4 June: FCT	147 Public meeting	5 June: FCT*
136 Public meeting	29 May: HU*	148 Comment period	5 June-5 July: FCT
137 Comment period	29 May-28 June: HU	149 Consideration of all comments	5 June-15 July: FCT
138 Consideration of all comments	29 May-8 July: HU	150 Prepare final plan	5 June-20 July: FCT
139 Prepare final plan	29 May-13 July: HU	151 Prepare notice of public meeting	8 June: DN
140 Complete final lake survey	31 May-4 June: DN	152 Prepare and mail Congressional advance notice	8 June: DN*
141 Prepare overlays	1-5 June: EW	153 Complete reproduction	10-18 June: EW
142 Prepare slides	1-6 June: EW	154 Mini meetings	13-21 June: DN
143 Prepare presentation	1-10 June: EW	155 SWD approval prelim plan	14-21 June: DN
144 Dry run, public mtg	3 June: FCT		

TABLE II(Continued)

Work Item	Month and Key Symbol	Work Item	Month and Key Symbol
156 Prepare mailing list	14-22 June: DN	167 Implementation	29 June-6 July: FG
157 SWD approval final plan	15-29 June: FG	168 Prepare overlays	3-7 July: DN
158 Dry run, public meeting	17 June: EW	169 Prepare slides	3-8 July: DN
159 Final preparations	17-18 June: EW	170 Prepare presentation	3-13 July: DN
160 Public meeting	19 June: EW*	171 Implementation	6-13 July: MW
161 Comment period	19 June-19 July: EW	172 SWD approval final plan	6-20 July: KH
162 Consideration of all comments	19 June-29 July: EW	173 Complete reproduction	13-21 July: DN
163 Final decisions proposed plan	21-25 June: DN	174 SWD approval final plan	13-27 July: HU
164 Mail public notice	22 June: DN*	175 Prepare final plan	19 July-3 Aug: EW
165 SWD approval final plan	22 June-6 July: MW	176 Dry run, public meeting	20 July: DN
166 Prepare art work	25 June-3 July: DN	177 Final preparations	20-21 July: DN
		178 Implementation	20-27 July: KH

TABLE II(Continued)

Work Item	Month and Key Symbol	Work Item	Month and Key Symbol
179 SWD approval final plan	20 July-3 Aug: FCT	184 Implementation	27 July-3 Aug: HU
		185 Implementation	3-10 Aug: FCT
180 Public meeting	22-23 July: DN*		
		186 SWD approval final plan	3-17 Aug: EW
181 Comment period	22 July-22 Aug: DN		
182 Consideration of all comments	22 July-1 Sept: DN	187 Implementation	17-24 Aug: EW
		188 SWD approval final plan	6-20 Sept: DN
183 Preparation of final plan	22 July-6 Sept: DN		
		189 Implementation	20-27 Sept: DN

*Activity on Critical Path. Event must happen on this date.

KEY SYMBOL LIST

Council Grove		Eufaula	EW	Hulah	HU	Millwood	MW
Fall River	FCT	Wister					
Toronto				Keystone	KH	Tenkiller	TK
		Fort Gibson	FG	Heyburn			
Denison	DN						

TABLE III

PROPOSED LAKESHORE ALLOCATIONS

Project	Public Use Area			Prohibited Access Area			Public Organization Area		
	Shore Miles	Total Shore %	Docks No.	Shore Miles	Total Shore %	Docks No.	Shore Miles	Total Shore %	Docks No.
Council Grove	5.5	14.9	0	0.7	1.9	0	0.1	0.3	1
Denison	150.7	25.8	72	9.0	1.5	0	34.1	5.8	74
Eufaula	100.0	16.7	15	0.8	0.1	0	0	0	0
Fall River	8.2	20.5	39	1.5	3.8	0	0	0	0
Fort Gibson	48.0	21.3	57	2.6	1.2	0	10.5	4.7	77
Heyburn	8.4	16.8	0	0.5	1.0	0	0	0	0
Hulah	10.6	17.1	0	0.7	1.1	0	0.3	0.4	0
Keystone	53.2	16.1	8	0.9	0.2	0	3.6	1.1	0
Millwood	20.2	23.3	0	3.8	4.4	0	0.3	0.3	0
Tenkiller	46.0	35.4	10	1.5	1.2	0	5.0	3.8	4
Toronto	3.4	6.7	2	1.1	2.2	0	0	0	0
Wister	25.0	21.7	1	0.5	0.5	0	0	0	0
Totals:	479.2	20.7	204	23.6	1.0	0	53.9	2.3	156

TABLE III(Continued)

Project	Protected Lakeshore Area						Limited Development		
	Shore Miles	Total Shore %	Docks Prox. to Public use, No.	Docks on main body No.	Docks one mile to conc, No.	Docks phy constraint No.	Shore Miles	Total Shore %	Docks No.
Council Grove	30.7	82.9	0	0	0	1	0	0	0
Denison	387.7	66.3	118	32	0	4	3.5	0.6	155
Eufaula	492.4	82.1	47	66	0	48	6.8	1.1	180
Fall River	30.3	75.7	0	0	0	0	0	0	0
Fort Gibson	157.6	70.0	45	35	0	65	6.3	2.8	299
Heyburn	41.1	82.2	0	0	0	1	0	0	0
Hulah	49.8	80.4	1	4	0	0	0.6	1.0	23
Keystone	269.6	81.8	2	4	0	9	2.7	0.8	60
Millwood	62.7	72.0	0	1	0	1	0	0	0
Tenkiller	74.1	57.0	19	34	23	4	3.4	2.6	146
Toronto	46.5	91.1	0	0	0	0	0	0	0
Wister	89.5	75.0	0	0	0	0	0	0	0
Totals	1732	75.0	232	176	23	133	23.3	1.0	863

TABLE III(Continued)

Project	Total Shore Length Miles	Docks Total No.	Docks, Total No. in Lim. Dev. and Pub Organization	Docks, Total No. in Grand-father Rights Status	% Docks in Limited Dev. and Public Organization	% Docks in Grandfather Rights Status
Council Grove	37	2	1	1	50.0	50.0
Denison	585	455	229	226	50.3	49.7
Eufaula	600	356	180	176	50.6	49.4
Fall River	40	39	0	39	0	100.0
Fort Gibson	225	578	376	202	65.1	34.9
Heyburn	50	1	0	1	0	100.0
Hulah	62	28	23	5	82.1	17.9
Keystone	330	83	60	23	72.3	27.7
Millwood	87	2	0	2	0	100.0
Tenkiller	130	240	150	90	62.5	37.5
Toronto	51	2	0	2	0	100.0
Wister	115	1	0	1	0	100.0
Totals:	2312	1787	1019	768	57.0	43.0

TABLE IV

FINAL LAKESHORE ALLOCATIONS

Project	Public Use Area			Prohibited Access Area			Public Organization Area		
	Shore Miles	Total Shore %	Docks No.	Shore Miles	Total Shore %	Docks No.	Shore Miles	Total Shore %	Docks No.
Council Grove	5.5	14.9	0	0.7	1.9	0	0.1	0.3	1
Denison	150.7	25.8	75	9.0	1.5	2	34.1	5.8	71
Eufaula	100.0	16.7	3	0.8	0.1	0	0	0	0
Fall River	8.2	20.5	39	1.5	3.8	0	0	0	0
Fort Gibson	48.0	21.3	42	2.6	1.2	0	10.5	4.7	69
Heyburn	8.4	16.8	0	0.5	1.0	0	0	0	0
Hulah	10.6	17.1	0	0.7	1.1	0	0.3	0.4	0
Keystone	53.2	16.1	1	0.9	0.2	0	3.6	1.1	0
Millwood	20.2	23.3	0	3.8	4.4	0	0.3	0.3	0
Tenkiller	46.0	35.4	4	1.5	1.2	0	5.0	3.8	5
Toronto	3.4	6.7	2	1.1	2.2	0	0	0	0
Wister	25.0	21.7	1	0.5	0.5	0	0	0	0
Totals:	479.2	20.7	167	23.6	1.0	2	53.9	2.3	146

TABLE IV(Continued)

Project	Protected Lakeshore Area			Aesthetic Lakeshore Area			Limited Development Area		
	Shore Miles	Total Shore %	Docks No.	Shore Miles	Total Shore %	Docks No.	Shore Miles	Total Shore %	Docks No.
Council Grove	30.7	82.9	0	0	0	0	0	0	0
Denison	294.8	50.4	1	70.8	12.1	0	25.6	4.4	306
Eufaula	430.6	71.8	0	28.8	4.8	0	39.8	6.6	353
Fall River	30.3	75.7	0	0	0	0	0	0	0
Fort Gibson	128.7	57.2	1	12.7	5.6	1	22.5	10.0	465
Heyburn	41.1	82.2	1	0	0	0	0	0	0
Hulah	48.3	78.0	0	0	0	0	2.1	3.4	28
Keystone	95.2	29.0	0	155.6	47.1	1	21.5	6.5	82
Millwood	61.9	71.1	0	0	0	0	0.8	0.9	2
Tenkiller	40.5	31.1	0	24.0	18.5	25	13.0	10.0	206
Toronto	46.5	91.1	0	0	0	0	0	0	0
Wister	89.5	77.8	0	0	0	0	0	0	0
Totals:	1338.1	58.0	4	291.9	12.6	27	125.3	5.4	1442

TABLE IV(Continued)

Project	Total Shore Length Miles	Docks Total No.	Docks, Total No. in Lim. Dev. and Pub Organization	Docks, Total No. in Grand-father Rights Status	% Docks in Limited Dev and Public Organization	% Docks in Grandfather Rights Status
Council Grove	37	2	1	1	50.0	50.0
Denison	585	455	377	78	82.9	17.1
Eufaula	600	356	353	3	99.2	0.8
Fall River	40	39	0	39	0	100.0
Fort Gibson	225	578	534	44	92.4	7.6
Heyburn	50	1	0	1	0	100.0
Hulah	62	28	28	0	100.0	0
Keystone	330	84	82	2	97.6	2.4
Millwood	87	2	2	0	100.0	0
Tenkiller	130	240	211	29	87.9	12.1
Toronto	51	2	0	2	0	100.0
Wister	115	1	0	1	0	100.0
Totals:	2312	1788	1588	200	88.8	11.2

APPENDIX C

OPTIONS FOR DOCK OWNERS IN GRANDFATHER RIGHTS STATUS

OPTIONS FOR DOCK OWNERS IN GRANDFATHER RIGHTS STATUS

1. Options for Individual Boat Docks Located In Public Use Areas*

a. Your boat dock may remain at its present location under the terms of the grandfather clause. The grandfather clause allows you to retain your dock in your name and/or that of your spouse for as long as the dock will pass annual inspection without major repair. This clause applies for the life of the permittee(s) or until sale or cessation of use of the facility by you. At that time, the dock must be moved to an area approved for boat docks or removed from the lake.

b. You may move your dock to an area of your choice allocated for boat docks (Limited Development area) which now has docks and where space is available. If you wish to relocate your boat dock in a Limited Development area, you will be given priority as to the area and space in that area.

c. Your dock may be sold by you to a concessionaire and moved to his location and become the property of the concessionaire provided adequate space is available. A lease arrangement suitable to you and the concessionaire can be made for you to retain your boat in that particular dock, not to exceed the life of the concession lease with the Corps of Engineers.

2. Options for Individual Boat Docks Located in Aesthetic Areas*

a. Same as paragraph 1-a.

b. Same as paragraph 1-b.

c. You may replace your present dock with a low profile structure (no roof or sides). If you elect this option, the low profile structure is not subject to the restrictions of the grandfather clause and your permit may be renewed indefinitely as long as the dock passes the annual inspection. Additionally, your existing dock may be relocated as in paragraph "b" above. If you elect this option, your present dock must be either relocated or replaced within one year from the date of this letter.

d. Same as paragraph 1-c.

3. Options for Corporate Owned Boat Docks Located In Public Use Areas*

a. Your corporate owned dock may remain at its present location until expiration of the permit as long as the dock is owned by the corporation and can pass annual inspections without major repair. At the end of this time period, if the dock remains in an area not allocated for boat docks, the permit will not be reissued. In exceptional cases, a five-year extension of your permit may be granted to allow additional time to make alternate arrangements for dock facilities.

b. Same as paragraph 1-b.

c. Same as paragraph 1-c.

4. Options for Corporate Owned Boat Docks Located In Aesthetic Areas*

a. Same as paragraph 3-a.

b. Same as paragraph 1-b.

c. Same as paragraph 2-c.

d. Same as paragraph 1-c.

5. Options for Multi-owner, Multi-stall Boat Docks Located in Public Use Areas*

a. Your multi-owner, multi-stall dock may remain at its present location under the terms of the grandfather clause. The grandfather clause will allow the dock to remain as long as the dock will pass annual inspections without major repair or until sale or cessation of use of the facility by the permittees of record as of 15 January 1975. After the grandfather clause no longer applies, the dock must be moved to an area approved for boat docks or removed from the lake.

b. Same as paragraph 1-b.

c. Same as paragraph 1-c.

6. Options for Multi-owner, Multi-stall Boat Dock Located in Aesthetic Areas*

a. Same as paragraph 5-a.

b. Same as paragraph 1-b.

c. Same as paragraph 2-c.

d. Same as paragraph 1-c.

7. Options for Individual Boat Docks Located in Prohibited Access Areas*

a. Same as paragraph 1-a.

b. Same as paragraph 1-b.

c. Same as paragraph 1-c.

8. Options for Individual Boat Docks Located on Lakes Not Having Limited Development Areas**

Your boat dock is presently located in an area not allocated for boat docks; therefore, the structure will fall under the grandfather clause. The grandfather clause allows you to retain your dock in your name and/or that of your spouse for as long as the dock will pass annual inspection without major repair. The clause applies for the life of the permittee(s) or until sale or cessation of use of the facility by you. At that time the dock must be removed from the lake.

9. Options for Corporate Owned Boat Docks Located on Lakes Not Having Limited Development Areas***

Your corporate owned boat dock is presently located in an area not allocated for docks; therefore, the structure will fall under the grandfather clause. The grandfather clause allows the structure to remain at its present location until expiration of the permit (April 1979) as long as the dock is owned by the corporation and can pass annual inspection without major repair. At the end of this time period, a five-year extension of the permit may be granted to allow additional time to make alternate arrangements for disposition of the structure.

* Applicable to Denison, Eufaula, Fort Gibson, Keystone and Tenkiller.

** Applicable to Council Grove, Fall River, Toronto and Wister.

*** Applicable to Heyburn.

APPENDIX D

CONDITIONS OF PERMIT FOR LAKESHORE USE

CONDITIONS OF PERMIT FOR LAKESHORE USE

1. This permit is granted solely for the purpose described on the application for a lakeshore use permit.

2. The permittee agrees to and does hereby release and agree to save and hold the Government harmless from any and all causes of action, suits at law or equity, or claims or demands or from liability of any nature whatsoever for or on account of any damages to persons or property, including the permitted facility, growing out of the ownership, construction, operation or maintenance by the permittee of the permitted facilities.

3. The ownership, construction, operation or maintenance of the permitted facility is subject to the Government's navigation servitude.

4. No attempt shall be made by the permittee to forbid the full and free use by the public of all navigable waters at or adjacent to the permitted facility or to unreasonably interfere with navigation in connection with the ownership, construction, operation and maintenance of the permitted facility.

5. The permittee agrees that if subsequent operations by the Government require an alteration in the location of the permitted facility or if in the opinion of the District Engineer the permitted facility shall cause unreasonable obstruction to navigation or that the public interest so requires the permittee shall be required, upon written notice from the District Engineer to remove, alter, or relocate the permitted facility, without expense to the Government.

6. The Government shall in no case be liable for any damage or injury to the permitted facility which may be caused by or result from subsequent operations undertaken by the Government for the improvement of navigation or other lawful purposes, and no claims or right to compensation shall accrue from any such damage.

7. The ownership, construction, operation and maintenance of the permitted facility is subject to all applicable Federal, State, and local laws and regulations.

8. This permit does not convey any property rights either in real estate or material; and does not authorize any injury to private property or invasion of private rights or any infringement of Federal, State, or local laws or regulations nor does it obviate the necessity of obtaining State or local assent required by law for the construction,

operation or maintenance of the permitted facility.

9. The permittee shall comply promptly with any lawful regulations or instructions of any Federal, State or local agency of the Government.

10. The permittee agrees that he will complete the facility construction action within one year of the permit issuance date. The permit shall become null and void if the construction action is not completed within that period. Further, he agrees that he will operate and maintain the permitted facility in a manner so as to minimize any adverse impact on fish and wildlife habitat, natural environmental values and in a manner so as to minimize the degradation of water quality.

11. At such time that the permittee ceases to operate and maintain the permitted facility, upon expiration of this permit, or upon revocation of this permit, the permittee shall remove the permitted facility within 30 days, at his expense, and restore the waterway and lands to its former condition. If the permittee fails to remove and so restore to the satisfaction of the District Engineer, the District Engineer may do so by contract or otherwise and recover the cost thereof from the permittee.

12. No pier or houseboat is to be used for human habitation. Household furnishings are not permitted on boat piers or boathouses.

13. No houseboat, cabin cruiser or other vessel shall be used for human habitation at a fixed or permanent mooring point.

14. No charge may be made for use by others of the permitted facility nor commercial activity be engaged in thereon.

15. The size of all structures shall be kept to a minimum to limit encroachment on the water surface.

16. Boat mooring buoys and flotation units of floating facilities shall be constructed of materials which will not become waterlogged or sink when punctured.

17. Floating structures are subject to periodic inspection by the Corps rangers. If an inspection reveals conditions which make the facility unsafe in any way or conditions which deviate from the approved plans, such conditions will be corrected immediately by the owner upon receipt of notification. No deviation or changes from approved plans will be permitted without prior written approval of the Resource Manager.

18. Floating facilities shall be securely anchored to the shore in accordance with the approved plans by means of moorings which do not obstruct the free use of the lakeshore.

19. That the display permit tag provided shall be posted on the floating facility or on the land areas covered by the permit so that it can be visually checked with ease in accordance with instructions of the Resource Manager.

20. No vegetation other than that prescribed in the permit may be damaged, destroyed or removed.

21. No change in land form such as grading, excavation or filling may be done.

22. No vegetation planting of any kind may be done, other than that specifically prescribed in the permit.

23. This permit is non-transferable. Upon the sale or other transfer of the permitted facility or the death of the permittee, this permit is null and void.

24. By 30 days written notice, mailed to the permittee by registered or certified letter, the District Engineer may revoke this permit whenever he determines that the public interest necessitates such revocation or when he determines that the permittee has failed to comply with the conditions of this permit. The revocation notice shall specify the reasons for such action. If within the 30 day period, the permittee, in writing, requests a hearing, the District Engineer shall grant such hearing at the earliest opportunity. In no event shall the hearing date exceed 60 days from the date of the hearing request. At the conclusion of such hearing, the District Engineer shall render a final decision in writing and mail such decision to the permittee by registered or certified letter. The permittee may, within 5 days of receipt of the decision of the District Engineer appeal such decision to the Division Engineer. The decision of the Division Engineer shall be rendered expeditiously as possible and shall be sent to the permittee by registered or certified letter. The permittee may, within 5 days of receipt of the decision of the Division Engineer, appeal such decision in writing to the Chief of Engineers. The decision of the Chief of Engineers shall be final from which no further appeal may be taken.

25. Notwithstanding condition 24 above, if, in the opinion of the District Engineer, emergency circumstances

dictate otherwise, the District Engineer may summarily revoke this permit.

26. The person listed on the permit application as being available on short notice call shall maintain possession of a set of keys to the permitted facility.

APPENDIX E

APPLICATION FOR LAKESHORE USE PERMIT

AND SPECIFICATIONS FOR MINIMUM

DESIGN STANDARDS

APPLICATION FOR LAKESHORE USE PERMIT

(ER 1130–2–406)

Print or type the information requested below. Submit two completed and signed copies of this application with two complete sets of plans and specifications to the Resource Manager.

LAKE	DATE OF APPLICATION
NAME OF APPLICANT	TELEPHONE AREA CODE AND NUMBER
STREET	CITY AND STATE

TYPE OF FACILITY

☐ BOATHOUSE *(w/mail)* ☐ BOAT PIER *(open)* ☐ BOAT MOORING BUOY ☐ SKI JUMP

☐ DUCKBLIND ☐ FLOAT ☐ OTHER *(specify)* ☐ LAND USE *(specify)*

BRIEF DESCRIPTION OF LOCATION OF FACILITY, PERMIT NUMBER(s) OF BOAT OR BOATS TO BE DOCKED IF THIS APPLICATION IS FOR A BOAT MOORING FACILITY OR DEVELOPMENT IF THIS APPLICATION IS FOR LAND USE;

THE FOLLOWING PARTY WILL BE READILY AVAILABLE ON SHORT–NOTICE CALL AND RESPONSIBLE FOR PROVIDING ANY NEEDED SURVEILLANCE OF THE STRUCTURE IN MY ABSENCE.

NAME	TELEPHONE AREA CODE AND NUMBER
STREET	CITY AND STATE

I UNDERSTAND AND AGREE TO THE CONDITIONS OF THE PERMIT FOR LAKESHORE USE. TWO COMPLETE SETS OF THE PLANS AND SPECIFICATIONS, INCLUDING SITE LOCATION AND LAYOUT PLAN, FOR THE PROPOSED STRUCTURE AND ANCHORAGE SYSTEM ARE INCLOSED.

Date *Signature of Applicant*

(DO NOT WRITE BELOW THIS LINE)

PERMIT

PERMIT NO.	DATE ISSUED	PERMIT EXPIRES *(date)*

THIS PERMIT TO CONSTRUCT AND/OR MAINTAIN AND USE A FLOATING RECREATION FACILITY OR DEVELOPMENT AS SHOWN ON THE ATTACHED PLANS SUBJECT TO THE RULES AND REGULATIONS OF THE CORPS OF ENGINEERS ON WATERS UNDER THE CONTROL OF THE U. S. ARMY, CORPS OF ENGINEERS IS HEREBY GRANTED BY DELEGATION OF THE SECRETARY OF THE ARMY UNDER AUTHORITY CONFERRED ON HIM BY THE ACT OF CONGRESS APPROVED 31 AUGUST 1951 (U.S.C. 140). THE PERMITTEE SHALL ADHERE TO THE CONDITIONS FOR LAKESHORE USE.

Date *Signature of Resource Manager*

ENG FORM 4264–R 1 DEC 74 EDITION OF FEB 69 IS OBSOLETE.

SPECIFICATIONS FOR MINIMUM DESIGN STANDARDS

1. Design Criteria.

a. Superstructure: All material used in the superstructure will be metal with exception of the decking and plexiglas.

b. Metal Material: Metal will be used and designed in accordance with American Institute of Steel Construction Specifications or applicable specifications of the American Society of Civil Engineers Proceedings for Aluminum structures depending on the type of metal used. Welded or bolted connections are optional. The use of new metal in the construction of the structure is mandatory.

2. Design Loads (Minimum).

a.	Deck loads (substructure)	50# sf
b.	Approach bridges of walkways	50# sf
c.	Wind loads (substructure and superstructure)	20# sf
d.	Roof loads (superstructure)	To provide for a 2" ice load or an equivalent amount of snow load.

e. Flotation must be provided under all areas of the substructure having 25 square feet or greater and must be sufficient to support the minimum design load of the deck, bridges, walkways, and roof, plus the weight of the structure.

3. Roofs (Superstructure).

a. Roofs may be gabled or monosloped.

b. Metal roof joists or rafters shall be not less than 1-¼" ID standard pipe or structural aluminum tubing, either round, square or rectangular, and spaced not more than 2'-0" center to center. Consideration will be given to approving 4'-0" spacing where sufficient vertical supports and bracing are provided. Purlins shall be not less than 1" ID pipe or structural aluminum tubing and spaced not more than 2'-0" center to center.

c. Metal roofs must be steel, minimum gauge of 28 or aluminum, minimum thickness of0.032".

d. Roofs must be securely fastened to the superstructure to resist wind uplift.

4. Decking and Framing.

a. Floor joists and flotation frames shall be not less than 2" ID standard pipe. Other standard structural steel

sections will be approved as well as structural aluminum tubing.

b. Framing for pipe construction shall be not less than 1-¼" ID standard pipe or structural aluminum, round, square, or rectangular tubing. Studs shall not exceed 48" center to center. Other standard steel or structural aluminum sections will be approved.

c. Flooring or decking shall be not less than 1" nominal rough or 2" x 6" S4S material and spaced in such manner to allow for expansion. Metal, concrete, or similar types of flooring and decking will be approved. All wood material in the deck must be treated with a preservative.

5. Metal Finish.

All metal used in the construction of the docks will be galvanized, and/or a patented enamel and/or anodized aluminum finish.

6. Security Locker.

An enclosed area not to exceed 3'-0" x 4'-0" floor dimension may be constructed for the storage of boating, safety, and recreation equipment.

7. Structure Inclosure.

Inclosure of the superstructure will not be allowed; however, it may be encompassed with galvanized or aluminum chain link fence or clear plexiglas.

8. Boat Mooring Buoys and Flotation Units of floating facilities shall be constructed of material which will not become waterlogged or sink when punctured.

9. Anchorage or Mooring Facilities.

Design of these facilities will be submitted for each separate structure and will be developed in accordance with the site where the facility will be moored, taking into consideration the water depth, exposure to fetch, and wind loads.

10. Walkways.

a. Walkways shall be not less than 3' wide and structurally sound.

b. Flotation material will be determined on the length of walkway in the water and/or connections on the floating craft and the shore.

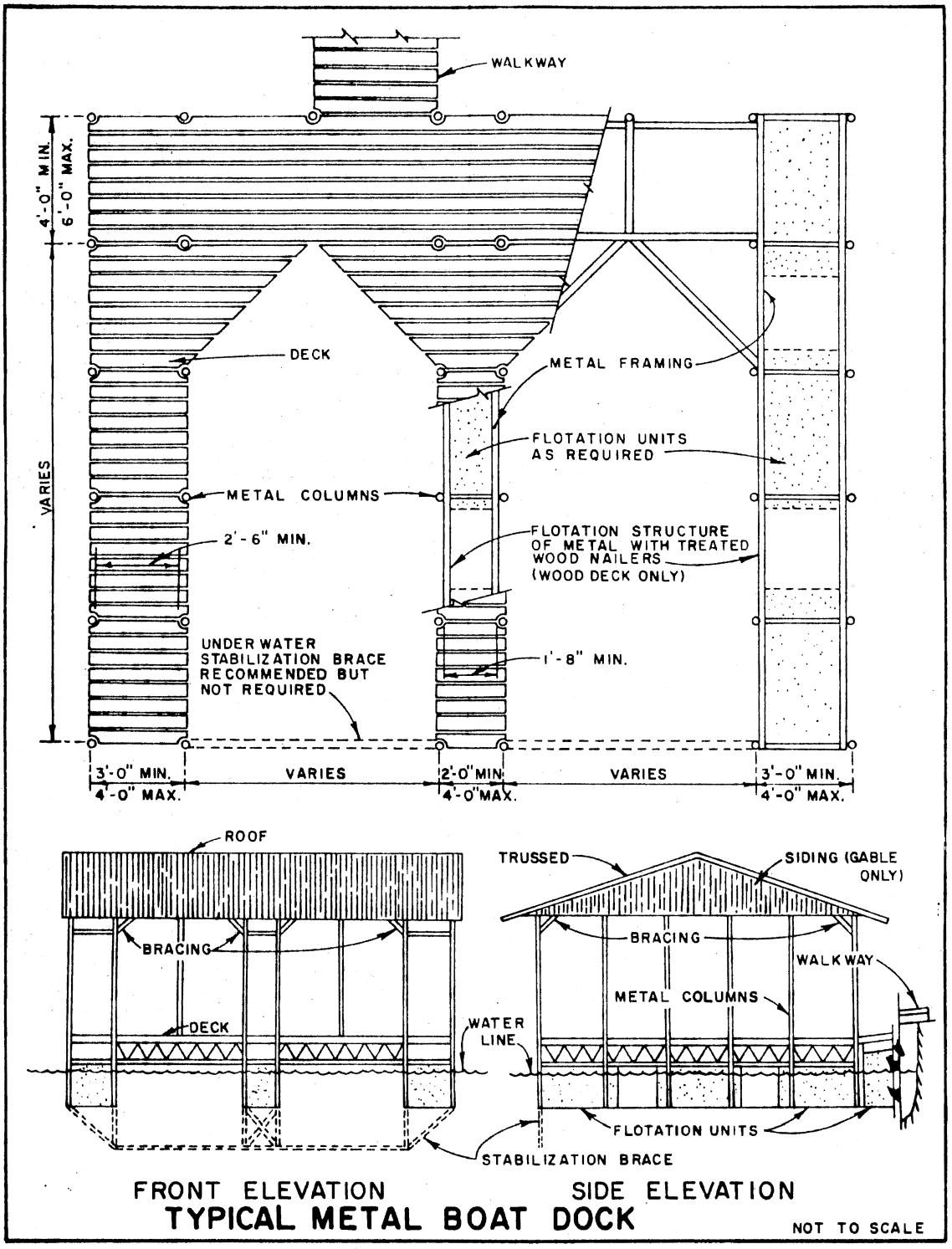
c. The proposed method of anchoring the walkway to the floating structure and the shore will be shown.

11. Stabilized or Underwater Brace.

a. A stabilized or underwater metal brace is recommended but not mandatory on the front (lake side) of a boathouse between the dock walkways.

b. The size of the metal brace will be determined on the width between the dock walkways.

c. The depth of the metal brace below the waterline will be determined on the draft of the floating craft to be stored in the boathouse.


WALKWAY
4'-0" MIN.
6'-0" MAX.
VARIES
DECK
METAL FRAMING
FLOTATION UNITS AS REQUIRED
METAL COLUMNS
2'-6" MIN.
FLOTATION STRUCTURE OF METAL WITH TREATED WOOD NAILERS (WOOD DECK ONLY)
UNDER WATER STABILIZATION BRACE RECOMMENDED BUT NOT REQUIRED
1'-8" MIN.
3'-0" MIN. 4'-0" MAX.
VARIES
2'-0" MIN. 4'-0" MAX.
VARIES
3'-0" MIN. 4'-0" MAX.
ROOF
BRACING
DECK
WATER LINE
TRUSSED
SIDING (GABLE ONLY)
BRACING
WALKWAY
METAL COLUMNS
FLOTATION UNITS
STABILIZATION BRACE
FRONT ELEVATION
SIDE ELEVATION
TYPICAL METAL BOAT DOCK
NOT TO SCALE

VITA[2]

Samuel Walter Cupps

Candidate for the Degree of

Master of Science

Thesis: ANALYSIS AND IMPLEMENTATION OF LAKESHORE MANAGEMENT METHODOLOGIES

Major Field: Civil Engineering

Biographical:

Personal Data: Born in Fayetteville, Arkansas, January 6, 1935, the son of Mr. and Mrs. Enos C. Cupps.

Education: Graduated from Fayetteville High School, Fayetteville, Arkansas, in May, 1953; received Bachelor of Science degree in Mechanical Engineering from the University of Arkansas in 1961; enrolled in masters program at Oklahoma State University, 1973-77; and completed requirements for the Master of Science degree at Oklahoma State University in December, 1977.

Professional Experience: Mechanical Engineer, Sam Rayburn Powerhouse, Jasper, Texas, U.S. Army Corps of Engineers, 1963-65; Mechanical Engineer, Engineering Division, U.S. Army Corps of Engineers, Tulsa, Oklahoma, 1965-67; Mechanical Engineer, Webbers Falls Lock and Dam and Powerhouse, U.S. Army Corps of Engineers, Gore, Oklahoma, 1967-70; Civil Engineer, Webbers Falls Lock and Dam and Powerhouse, U.S. Army Corps of Engineers, Gore, Oklahoma, 1970; Civil Engineer, Navigation Branch, U.S. Army Corps of Engineers, Tulsa, Oklahoma, 1970-73; Civil Engineer, Recreation and Resources Branch, U.S. Army Corps of Engineers, Tulsa, Oklahoma, 1973-present.