MASTER LAND USE PLAN

FOR

CONEMAUGH RIVER RESERVOIR

PENNSYLVANIA

PITTSBURGH DISTRICT
CORPS OF ENGINEERS, U. S. ARMY
JUNE 1952

MASTER LAND USE PLAN
FOR
CONEMAUGH RIVER RESERVOIR
PENNSYLVANIA

INDEX

		Page
	SYNOPSIS	
I.	INTRODUCTION	1
	Authority for Recreational Development	1
	Authority for Master Land Use Plan	1
	Cooperation with Other Agencies	1
II.	DESCRIPTION OF THE PROJECT	2
	Location	2
	Accessibility	2
	Purpose	3
	Dam and Immediate Vicinity	3
	Water and Land Areas Available	3
	Malarial Potentiality	4
III.	LAND USE POSSIBILITIES	4
	General	4
	Agriculture	4
	Conservation of Natural Resources	4
	Conservation of Wildlife	5
	Conservation of Forest Resources	5
	Recreation	6
IV.	FACTORS INFLUENCING RECREATIONAL DEVELOPMENT	7
	Region and Population Served	7
	Related Recreation Areas	7
	Influence of Related Areas	9
	Estimated Use	9
V.	GENERAL DEVELOPMENT PLANS	9
	General	9
	Plans of Individual Sites	10
	Conemaugh Picnic Area	10
	Bow Ridge Recreation Area	10
	Municipal Public Use Areas	12
	Boating, Hunting and Trapping	12
VI.	COST ESTIMATES	12

INDEX (contd)

		Page
VII.	ADMINISTRATION	18
	General	18
	Reservoir Rules and Regulations	18
	Law Enforcement	18
	Licenses, Leases, and Permits	18
	Management Cost	18
VIII.	CONCLUSIONS	19
IX.	RECOMMENDATIONS	19

TABLES

1.	Facilities of Principal Recreation Areas Within 50 Miles of Conemaugh River Reservoir	8
2.	Summary of Estimated Costs	13
3.	Detailed Cost Estimate	14
4.	Estimated Annual Cost of Operation and Maintenance of Conemaugh River Reservoir and Dam	16

PLATES

1. Related Recreation Areas
2-6, incl. General Land Use
7. Conemaugh Picnic Area - Bow Ridge Recreation Area

APPENDICES

1. U. S. Fish and Wildlife Report
2. National Park Service Report
3. Appraisal of Archeological Resources
4. Conservation Program
5. Letter from Pennsylvania Department of Forests and Waters
6. Special Regulations - District Engineer

SYNOPSIS

The Conemaugh River Reservoir is located in southwestern Pennsylvania, approximately 35 miles east of Pittsburgh. The reservoir area lies in Indiana and Westmoreland Counties and is readily accessible by numerous existing roads. However, access to the minimum pool is limited to two locations,- one at the dam and the other at the head of this pool near the former borough of Livermore. Much of the reservoir area was devoted to agriculture prior to the provision of the reservoir and it is expected that a considerable part of the agricultural areas will continue to be so used under leases, with the lessees participating in the program of the Soil Conservation District in which the tracts to be leased are located. The game management program for the entire reservoir area will become the responsibility of the Pennsylvania Game Commission under a license agreement. Visitation to the reservoir area, particularly to the dam, is expected to be heavy. Therefore, facilities for picnicking and sightseeing will be provided by the Corps of Engineers in the vicinity of the dam. Interest in boating and bathing is somewhat questionable in view of the polluted condition of the river water, due mainly to acid coal mine drainage. Pioneer camping sites near the dam will be made available if desired by organized camping groups. The report presents a general plan of development of land-use facilities, order of development, cost estimates, administration features, conclusions and recommendations, together with various pertinent appendices.

MASTER LAND USE PLAN

CONEMAUGH RIVER RESERVOIR

PENNSYLVANIA

I. INTRODUCTION

1. Authority for Recreational Development.- The basic legislation relating to the development and utilization of reservoir areas under the control of the Department of the Army for recreation and related purposes is contained in Section 4 of the Flood Control Act approved 22 December 1944 (Public Law 534, 78th Congress) as amended by Section 4 of the Flood Control Act approved 24 July 1946 (Public Law 526, 79th Congress, 2d Session, H.R. 6597).

2. Authority for Master Land Use Plan.- This plan is submitted in conformity with 2d Indorsement 23 March 1951 from the Office, Chief of Engineers, File ENGWO, on letter 6 February 1951 from District Engineer, Pittsburgh District, File OVPGP, subject: "Preliminary Report on Land Use Possibilities, Conemaugh River Reservoir, Pa".

3. Cooperation with Other Agencies.- As a result of contacts by this office, representatives of the U. S. Fish and Wildlife Service made a field inspection of the proposed reservoir area in April 1948, and submitted "A Preliminary Evaluation Report on the Fish and Wildlife Resources in Relation to the Water Development Plan for the Conemaugh River Reservoir". This report appears as Appendix 1 of the current report.

4. In July 1948 representatives of the U. S. Fish and Wildlife Service, the Pennsylvania Game Commission and the Pittsburgh District, Corps of Engineers, while inspecting several Federal flood control reservoirs in the Pittsburgh District to determine their game management possibilities, made a field investigation of the Conemaugh River Reservoir area. As a result of this and subsequent inspections, the Pennsylvania Game Commission indicated its interest in securing a game management license for the entire Conemaugh River Reservoir area, excepting public use areas.

5. To determine the recreational possibilities of the reservoir area a field inspection was made in August 1950 by representatives of the National Park Service and the Pittsburgh District, Corps of Engineers. This inspection disclosed two sites considered suitable for recreational development. The reconnaissance report titled "Recreational Resources of the Conemaugh Reservoir", which was compiled by the National Park Service, appears as Appendix 2 of this report.

6. In accordance with the terms of the Inter-Agency Archeological Program, the National Park Service notified the Smithsonian Institution of the pending Conemaugh River Reservoir project construction. As a result of this action, representatives of the Smithsonian Institution made a survey in October 1950 to determine the archeological resources of the reservoir area. The findings of the survey are summarized in a report which appears as Appendix 3 of the current report.

7. Contacts with the U. S. Soil Conservation Service and local conservation districts, initiated in November 1950, resulted in an agreement under which the Service has developed a conservation plan for the Conemaugh River Reservoir area. This plan is included as Appendix 4 of this report.

8. On 1 November 1951, representatives of the Pennsylvania Department of Forests and Waters, Bureau of Parks and the Corps of Engineers, Pittsburgh District, made an inspection of the Conemaugh River Reservoir area for the purpose of determining the part the State might play in the development of the area. By letter of 5 December 1951, contained in Appendix 5 of this report, the Department of Forests and Waters, through its Secretary, Admiral M. F. Draemel, indicated that it was "not interested in the development of the Conemaugh Reservoir as a State Park at the present time."

9. In October 1951 this office requested the advice of the State Planning Board, Pennsylvania Department of Commerce, relative to the establishment of zoning ordinances in the counties adjoining the Conemaugh River Reservoir. As a result of this contact, the Planning Board, at the request of the Corps of Engineers, agreed to proceed with developing and promulgating the necessary controls to assure the proper use of private lands in the general vicinity of the dam; such controls to be effective only in Conemaugh Township in Indiana County and Derry Township in Westmoreland County.

II. DESCRIPTION OF THE RESERVOIR PROJECT

10. Location.- The dam is located on the Conemaugh River 2 miles above Tunnelton, Pa., and 7.5 miles above the junction of the Conemaugh River and Loyalhanna Creek, which forms the head of the Kiskiminetas River. The reservoir, as shown by Plate 1 of the current report, is located in Indiana and Westmoreland Counties. Blairsville, Pa., is located on the Conemaugh River near the head of the reservoir area.

11. Accessibility.- The reservoir is located in an area of western Pennsylvania in which there are numerous existing roads. Two United States routes, two State routes, eight Legislative routes, and numerous township roads cross or parallel the reservoir area. This network of roads provides ready access to the

reservoir area as a whole; however, access to the minimum pool of the reservoir is limited to an abandoned State road leading from the north which dead-ends in the vicinity of the upstream limit of the pool, and to an unimproved access road consisting of a part of the abandoned Pennsylvania Railroad roadbed from Tunnelton across the old Bow Bridge and an old construction road up the west side of Bow Ridge to a parking area near the east abutment of the dam.

12. Purpose.- The primary purpose of the Conemaugh River Reservoir is flood control. This is to be accomplished by temporarily impounding in storage capacity provided above minimum pool, flood waters arising from the tributary drainage area which consists of 1,351 square miles, and then releasing these impounded flood waters as rapidly as downstream river stage conditions will permit, until minimum pool is again reached in the reservoir. Incidental use of the reservoir area considered herein includes agriculture, wildlife conservation, and recreation, to such extent as such uses will not conflict with the primary purpose of the reservoir for flood control.

13. Dam and Immediate Vicinity.- The dam is of the concrete gravity type with a gate controlled center spillway flanked by abutment sections joining the valley sides and terminating in an earth embankment on the right abutment. The dam is 1,290 feet long at the top and rises 169.5 feet above the stream bed. In the vicinity of the right abutment there is a partially wooded area of about 50 acres where the Corps of Engineers is providing a paved parking area, a public sanitary building, and picnicking facilities as a part of the initial project construction. The long, high ridge, known as Bow Ridge, which forms the left abutment of the dam is relatively flat on top and was used agriculturally prior to Government acquisition. The slopes down to the water's edge are wooded.

14. Water and Land Areas Available.- The minimum pool at elevation 880 covers an area of 300 acres and has a storage capacity of 4,000 acre-feet. The length of this pool is 6.6 miles. The reservoir-full pool, elevation 975, covers an area of 6,820 acres and has a storage capacity of 270,000 acre-feet above the minimum pool. The reservoir-full pool length is 20.9 miles along the Conemaugh River. The total acreage within the reservoir purchase area, which includes a freeboard on the reservoir-full pool, is approximately 7,410 acres, of which 260 acres is in flowage easement and not available for general public use or recreational development. At minimum pool stage, the total land area within the reservoir area is approximately 7,110 acres of which 6,850 acres are owned in fee by the Federal Government and administered by the Corps of Engineers. At reservoir-full, the total land area is about 590 acres of which 330 acres are owned in fee by the Federal Government.

15. Malarial Potentiality.- The water of the Conemaugh River, Black Lick Creek and many of the smaller tributary streams is highly polluted by acid mine drainage and by industrial wastes, a condition believed to be not conducive to the breeding of mosquitoes. For this reason the U. S. Public Health Service was not asked to make a malarial potentiality survey of the reservoir area. However, if and when the water of the reservoir becomes free of pollution as a result of the State of Pennsylvania's program of pollution abatement, the advice of the U. S. Public Health Service, relative to the control of mosquitoes, will then be sought.

III. LAND USE POSSIBILITIES

16. General.- The character and use of the reservoir area are and will be such that agriculture, conservation of wildlife and forest resources, and public recreation would be the main incidental uses of the land and water areas for providing maximum public benefits to supplement the primary reservoir use for flood control. The present use of the land within the reservoir area is shown on Plates 2 through 6 of the current report. The proposed uses are also shown on these plates and were developed with the cooperation of the District Conservationist of the U. S. Soil Conservation Service, Indiana County Soil Conservation District, Pa.

17. Agriculture.- Agriculture will continue to be an important use of the agricultural lands within the reservoir area. It has been estimated by the District Conservationist of previous mention that there are 1,100 acres of land lying above the 940 contour suitable for agricultural use. The minimum pool has elevation 880. The acreage for agricultural use would be larger if it were not for the fact that much of the present agricultural land lies below the 940 contour where it is expected to be inundated too frequently after the reservoir has been placed in complete operation, to be used profitably for agricultural purposes. Therefore, such lands should be devoted to wildlife. However, the decision as to whether reservoir land will be used for wildlife or for agriculture will depend to a great extent upon the securing of agricultural lessees who are willing to take the risk of having crops ruined by inundation.

18. The U. S. Soil Conservation Service has made a soil capability survey of the entire reservoir area to aid in determining the best uses of the various types of land. The recommendations of the Conservation Service are set forth in the conservation plan in Appendix 4 of this report. As far as practicable, any leasing for agricultural use, whether it be for cultivated crops or grazing, will be in accordance with the recommendations of the Conservation Service.

19. Conservation of Natural Resources.- The conservation of forest and wildlife resources is an immediately important potential use of the land. The conservation of fish life and the development

of a fish management program need not be considered at this time due to the polluted condition of the river water. However, if and when these conditions are corrected, as a result of the State's clean streams program, an attempt should be made to interest the Pennsylvania Fish Commission in taking over the management of the fish resources under a license agreement.

20. Conservation of Wildlife.- The Pennsylvania Game Commission has at various times expressed its interest in the Conemaugh River Reservoir area from the game management viewpoint and has requested a license if practicable covering all of the lands within the reservoir area. It is proposed, as a part of this master land use plan, that this request be granted and that all of the land owned in fee title by the Federal Government be licensed to the Commission for game management purposes. The license would recognize a reservation by the Federal Government of the right to lease lands for agricultural purposes.

21. The U. S. Fish and Wildlife Service, assisted by the Pennsylvania Game Commission, has been making pre-impoundment ecological studies of wildlife in the reservoir area since 1950 and has indicated that the studies will continue for a few years after the reservoir has been placed in operation.

22. For a number of years prior to the construction of the Conemaugh River Reservoir there were several farmers residing in the area who were cooperating with the Game Commission in its farm-game program. It is the desire of the Commission to continue and enlarge this program by entering into agreements with lessees of the agricultural land within the reservoir area.

23. Conservation of Forest Resources.- In the reservoir area above minimum pool there are several hundred acres of woodland consisting largely of oak, hickory, black cherry and some beech. Some of the old fields are now being grown over with wild crab apple, aspen and alder. Plates 2 through 6 show the areas where these woodlands occur and also where new plantings should be made. The woodlands are not extensive and are of little commercial value. They can best be treated as ordinary farm woodlands. The Corps of Engineers, by virtue of its agreements with the Soil Conservation Districts of Westmoreland and Indiana Counties, Pennsylvania, is eligible not only for the complete cooperation and advice of the

Soil Conservation Service, but also the Forestry Service offered by the Pennsylvania Department of Forests and Waters. The recommendations for the management of the woodlands, as outlined in the Conservation Plan, Appendix 4, should be conformed with as far as practicable as funds become available.

24. To provide food and cover for wildlife, the Pennsylvania Game Commission will plant trees and shrubs at its own expense on lands which it administers under a license or other agreement. Such plantings are done in areas classified as "marginal land" in accordance with recommendations of the Soil Conservation Service, and with the approval of the land owner. There are sections of the Conemaugh River Reservoir area which can be termed as "marginal land" in that frequent inundation may deter agricultural use. It is proposed that the Pennsylvania Game Commission be permitted to plant trees in such areas subject to the approval of the District Engineer.

25. Seedling trees and shrubs are frequently available at small cost through the District Conservationists of the Soil Conservation Districts of Westmoreland and Indiana Counties, Pennsylvania. If funds are available, the Corps of Engineers could secure trees from this source to be planted in the areas for which reforestation is proposed as indicated on Plates 2 through 6. Initial plantings would be done on reservoir land adjacent to the boroughs of Blairsville, Black Lick and Josephine where they would provide the greatest benefit, not only to wildlife, but also to the general public by increasing the scenic beauty and recreational value of the reservoir area.

26. Recreation.- Recreation in various forms will be an important use of the lands of the reservoir area. Space is readily available in the vicinity of the dam for such activities as picnicking, hiking, sightseeing and overnight pioneer camping by organized groups. There are numerous roads leading into the reservoir area, which will provide easy access for those persons interested in hunting, hiking and nature study. For these recreational pursuits much of the reservoir area is well adapted and little development is required. Because of the polluted condition of the Conemaugh River it is likely that any major recreational use of the water in the reservoir will be slow in developing. However, experience at Loyalhanna Reservoir with an impoundment of polluted water similar to that for Conemaugh Reservoir and where a dock concessionaire has been operating since 1948 indicates that such bodies of water possess a certain amount of public attraction. Therefore, consideration should be given to providing permanent access to the minimum pool, a boat launching ramp, and space for a boating concession. If and when the river is reasonably freed of pollution, as a result of the clean streams program of the State of Pennsylvania, provision of facilities for fishing and swimming would become necessary.

IV. FACTORS INFLUENCING RECREATIONAL DEVELOPMENT

27. Region and Population Served.- It is estimated that the effective "Recreational Zone of Influence" of the Conemaugh River Reservoir area will extend outward along existing highways for a distance of 50 miles, as shown on Plate 1. However, as hunting becomes increasingly popular as a result of the State's game management program, it is probable that many persons will come from distances of over 50 miles.

28. The estimated number of persons residing within the 50-mile zone, according to the 1950 U. S. census, preliminary count, was 2,207,500. Of these, an estimated 210,800 persons or only 9.5% reside within 25 miles of the reservoir.

29. It is estimated that within the 25 to 50-mile zone there is an urban population of 1,397,420 persons or 70.0% of the total population of the zone. However, within the 25-mile zone, rural population is predominant and it is estimated that only 87,300 persons or 41.4% of the total population of the zone can be classified as urban. Urban population, as defined by the U. S. Census Bureau, consists of those persons living in incorporated places of 2,500 or more, or persons living in unincorporated townships having a total population of 10,000 or more and a population density of 1,000 or more per square mile.

30. Related Recreation Areas.- The principal recreation areas located within 50 miles of the Conemaugh River Reservoir are: 5 State parks, 2 State forest picnic areas, 2 County parks, and 2 Federal flood control reservoir areas. These areas, for the most part, are located within the 25 to 50-mile zone as shown on Plate 1, "Related Recreation Areas". The public use facilities are given in Table 1, which follows:

TABLE 1

Facilities of Principal Recreation Areas
Within 50 Miles of Conemaugh River Reservoir

RECREATION AREA	MILES FROM CONEMAUGH RIVER RESERVOIR	ACRES	BOATING	CABINS	FISHING	GROUP CAMPING	HIKING TRAILS	HUNTING	PICNICKING	PLAYFIELD	SCENIC VIEWS	SWIMMING	TENT CAMPING	WINTER SPORTS
STATE PARKS:														
Bushy Run Battlefield, Westmoreland Co., Pa.	26	132					x		x		x			
Crooked Creek, Armstrong Co., Pa. (1)	35	2,564*	x		x				x	x	x	x	x	
Keystone, Westmoreland Co., Pa.	9	785	x		x				x			x		
Kooser, Somerset Co., Pa.	45	510	x	x	x				x			x	x	
Laurel Hill, Somerset Co., Pa.	49	4,026	x		x	x	x		x	x	x	x	x	x
STATE FOREST PICNIC AREAS:														
Linn Run, Westmoreland Co., Pa.	30	2,300		x	x		x		x			x		
Laurel Summit, Somerset Co., Pa.	34	-					x		x					
COUNTY PARKS:														
North Park, Allegheny Co., Pa.	50	2,260	x	a	x	a	x		x	x		x	x	
South Park, Allegheny Co., Pa.	50	1,985		a		a	x		x	x		x	x	
RESERVOIR AREAS:														
Loyalhanna, Westmoreland Co., Pa.	12	3,415**	x			x		x	x					
Mahoning Creek, Armstrong, Indiana and Jefferson Counties, Pa.	50	2,520**			x			x	x					

(1) This is a Federal Flood Control Reservoir area which became a State Park in January 1951 under a license agreement with Pennsylvania Department of Forests and Waters.

* Includes the Federal Reservation at and in the vicinity of the dam but does not include flowage easement areas of 100 acres.

** Does not include flowage easement areas. (Loyalhanna Reservoir = 74 acres; Mahoning Creek Reservoir = 70 acres.)

a Cabins for Girl Scouts or Boy Scouts only.

31. Influence of Other Recreation Areas.- The presence of a number of well established recreational areas near the Conemaugh River Reservoir, and particularly within the 25 to 50-mile zone, will tend to limit public use of the reservoir area except for hunting. Several areas, even though they may have a smaller over-all acreage, have facilities and opportunities for recreation which in many respects are superior to those which could be provided at Conemaugh Reservoir. In the area beyond the 50-mile limit there are numerous recreational facilities in the form of State parks, State forest areas, other Federally and privately-owned reservoir areas and numerous small recreation areas, either privately or publicly owned.

32. Estimated Use.- In its "Reconnaissance Report, Recreational Resources of the Conemaugh Reservoir, Pa." (Appendix 2 of the current report), the National Park Service estimated total potential annual day-use visitation of 70,000 persons, exclusive of those interested only in sightseeing. This estimate is dependent on the provision of adequate picnic and boat launching sites and takes into consideration the developments of existing recreation areas within the day-use range of the reservoir and the present polluted condition of the Conemaugh River water. If the water of the reservoir becomes free of pollution, the National Park Service estimates that the attendance would more than double that estimated.

33. The Conemaugh River Dam is the largest structure of its kind in the Pittsburgh area. While under construction it attracted an average Sunday visitation of 1,200 sightseers. It is believed that public interest in the dam will continue and this form of visitation will remain high, even though construction operations will have been completed. Most of the visitors will be from within the 50-mile zone but it is expected that many will come from beyond it.

V. GENERAL PLAN OF DEVELOPMENT

34. General.- Preceding sections of this report have considered the use possibilities of the reservoir area, given an estimate of the anticipated public use, and indicated the general types of facilities needed. The over-all plan of development of the reservoir area is shown on Plates 2 through 6 of this report. The general plan of development for the Government-owned lands within the reservoir area provides for the establishment of a game management area through a license agreement with the Pennsylvania Game Commission, as was previously discussed. Within the game management area there is considerable agricultural land. It is proposed to continue this use under a leasing program. There is one site near Blairsville considered by the Smithsonian Institution to possess archeological importance and desirability of exploration. The plan also provides for recreation developments.

35. Plans for Individual Sites.- The plan of improvement provides for the development of two recreation sites by the Corps of Engineers, namely:

a. Conemaugh Picnic Area.

b. Bow Ridge Recreation Area.

The location of these sites is shown on Plate 2.

36. Conemaugh Picnic Area.- This area, shown on Plate 7, consists of approximately 40 acres located in the vicinity of the right abutment of the dam. It includes the land lying in the loop of the service road to the dam and extends north to Legislative Route 32002. For development purposes, the area is divided into two units. The part of the area nearest the west abutment of the dam, consisting of about 22 acres and designated as Unit A is proposed for initial development. Facilities for picnicking would be provided to supplement the public use facilities (such as the parking area) at the dam which already exist or which are scheduled for completion during the fiscal year ending 30 June 1953. The latter include the public sanitary building and landscape work consisting of a foot trail and overlook, the thinning of trees and the removal of underbrush in the wooded area of the Unit A site and some tree and shrub planting in the remainder of the site. All picnicking would be confined to the area lying within the loop of the service road to the dam. The estimated cost of the Unit A development is given in Table 2.

37. Unit B of the Conemaugh picnic area, fronting on Legislative Route 32002, consists of about 18 acres adjoining Unit A. The development of Unit B would not be undertaken until after the Bow Ridge recreation area (both units) had been developed and it has been proven that the then-existing facilities for public use, particularly picnicking, were unable to meet the public demand. The proposed order of development is shown on Plate 7. When Unit B is developed it would provide additional facilities for picnicking and parking. A foot trail would connect the new parking area with the overlook near the dam in Unit A. An additional overlook would be provided in the new picnic area for the convenience of the public. Water supply and toilet facilities would also be provided. Some landscaping would be necessary, particularly clearing of underbrush and thinning of trees.

38. Bow Ridge Recreation Area.- This area is shown on Plate 7. The east natural abutment of the dam is a high ridge formed by a sharp bend in the river. The approximate distance from where the relocated Pennsylvania Railroad cuts through the southern part of this ridge, due north to the minimum pool of the reservoir, is 6,000 feet. There are approximately 230 acres in this area. The site is readily accessible by using the abandoned Pennsylvania Railroad double track roadbed from Tunnelton to and across the old

Bow Railroad Bridge, a distance of about 1-1/2 miles, and a construction road up the west side of Bow Ridge to a flattened area above the left abutment of the dam. The proposed development program for this area is divided into two units with Unit A considered for development after Conemaugh Picnic Area, Unit A, upon demonstrated public need and availability of funds.

39. Under the development program for Unit A, the bed of the abandoned railroad including that on the Bow Bridge and the road leading up the western slope of the ridge would be improved by adding a surface and guardrail. The existing guardrail on Bow Bridge would be repaired and a new guardrail installed so as to provide pedestrian walkways across the bridge. Guardrail would also be provided along the riverward side of the road leading to a proposed parking area near the top of Bow Ridge. This road would be surfaced with selected material to make it an all-weather road. Adjoining the proposed parking area on the north is a wooded area which can be readily used for a picnicking site. Facilities to be provided would include picnic tables, fireplaces, a water supply and toilets. Some landscaping would be required, particularly for erosion control on road slopes and the clearing of underbrush and thinning of trees. The estimated cost for development of Unit A of the Bow Ridge recreation area is given in Table 2.

40. The development of Unit B of Bow Ridge recreation area will depend upon public demand for boating facilities. Access to the minimum reservoir pool is available by using the existing road leading to the north from the parking area as shown on Plate 7. This road affords the only access to the minimum pool and will be used by the reservoir manager for reservoir maintenance purposes. However, before the road could be made available for use by the general public, it would be necessary to surface it with selected material and provide parking space on the ridge. It is proposed that this improvement and the additional picnicking facilities, water supply, toilets, a playfield and landscaping be provided by the Corps of Engineers. The boat dock, office and a concession building would be provided by a concessionaire. If the water of the reservoir should become free of pollution and thus suitable for bathing, a bathing beach could be developed 500 to 600 feet to the north of the boat dock site in the vicinity of a disposal area used for the construction of the dam.

41. Organized youth groups seeking camping sites for weekend use or other short periods will be encouraged to use sites in Bow Ridge recreation area, to be designated by the Reservoir Manager. Such camp sites will be classified as "pioneer camping areas". No facilities would be provided by the Corps of Engineers.

42. Municipal Public Use Areas.- The Conemaugh River Reservoir area adjoins the boroughs of Blairsville, Black Lick and Josephine. Most of these adjoining lands, especially in the vicinity of Blairsville, are well adapted for such recreational development as athletic fields, picnicking sites, bridle trails, hiking paths, nature study areas, neighborhood playgrounds, and areas of general scenic beauty. It is proposed that Government-owned lands adjoining municipalities be reforested. With proper planning between the U. S. Conservation Service, the Pennsylvania Game Commission, the Corps of Engineers and the affected borough, these lands could be developed to become outstanding assets for residents of the borough. Interest in the development of these areas by the affected boroughs is not evident at present. However, it is possible that at some later time these boroughs may become interested in developing public use areas at sites in the adjoining reservoir area. Therefore, it is proposed that if and when a request for such use is made by an interested borough, suitable sites be made available if not inconsistent with the then-current use. The development of any public use area by a municipality will be the responsibility of the local interests. It is not intended that the Federal Government share in the cost of any development. Plans for all proposed developments of the sites will be submitted to the District Engineer for approval.

43. Boating, Hunting and Trapping.- Boating will be permitted on the reservoir except in the area between the trash boom and the dam, subject to rules and regulations of the Corps of Engineers and the Commonwealth of Pennsylvania. Hunting and trapping will be permitted throughout the reservoir area with certain exceptions, subject to all rules and regulations of the Pennsylvania Game Commission. The exceptions are for the following areas,- the Reservoir Manager's dwelling area, the Conemaugh picnic area, the Bow Ridge recreation area, and the Game propagation area. Hunting and trapping in these areas will be conducted under the immediate direction and supervision of the Pennsylvania Game Commission in the interest of conservation of wildlife and the preservation of the areas, if and when requested by the Corps of Engineers. The limits of these no hunting areas are shown on Plate 7 of this report.

VI. COST ESTIMATES

44. Table 2 presents summaries of estimated costs, as of 1 April 1952, to the Corps of Engineers for development of Units A of the Conemaugh Picnic Area and Bow Ridge Recreation Area and estimated annual costs for the operation and maintenance of the Conemaugh River Dam and Reservoir. Detailed cost estimates for the public use facilities proposed by Unit A development are given in Table 3. The estimated annual cost of operation and maintenance, including detailed costs for reservoir management, is presented in Table 4.

TABLE 2

SUMMARY OF ESTIMATED COSTS

A. DEVELOPMENT

Area	Total development costs
Conemaugh Picnic Area (Unit A)	$ 5,000
Bow Ridge Recreation Area (Unit A)	76,000
	$81,000

B. OPERATION AND MAINTENANCE - ANNUAL COSTS

	Operation	Maintenance	Improvement and Reconstruction	Total
Reservoir Management	$ 7,400	$ 5,370	$ 4,900	$17,670
Regular Project Costs	26,100	5,630	6,600	38,330
Totals	$33,500	$11,000	$11,500	$56,000

TABLE 3

DETAILED COST ESTIMATE

CONEMAUGH PICNIC AREA:		
Unit A Development:		
Picnic tables with benches, 20 @ $75	$ 1,500	
Fireplaces, 7 @ $40	280	
Trash cans, 5 @ $ 5	25	
Water line from Public Sanitary Building, 500 lin. ft. @ $2.25	1,125	
Hydrant and fountain	300	
Incinerator	500	
Subtotal	$ 3,730	
Contingencies @ 15%	560	
Engineering, supervision and overhead @ 20%	746	
Total estimate	$ 5,036	
Total estimate (rounded)		$ 5,000
BOW RIDGE RECREATION AREA:		
Unit A Development:		
Improvement of access road from Tunnelton to east abutment of dam and parking area:		
Project shaping - subgrade improvement, 10,000 lin. ft. @ $1.50	$15,000	
Drainage structures	1,400	
Guardrail along access road from Tunnelton to old Bow Bridge - cable type, 3,500 lin. ft. @ $1.50	5,250	
Guardrail across old Bow Bridge, along access road from bridge to and including parking area, beam-type, 4,200 lin. ft. @ $3.00	12,600	
Repair existing guardrail on Bow Bridge, 960 lin. ft. @ $2.50	2,400	
Selected material surfacing, 1,500 cu. yds. @ $3.70	5,550	
Picnic tables with benches, 20 @ $75	1,500	
Fireplaces, 7 @ $40	280	
Trash cans, 5 @ $ 5	25	
Water supply, pipeline from water supply system for dam, 1,500 lin. ft. @ $2.75	4,125	
Hydrant and drinking fountain	300	

TABLE 3 (contd)

Pit toilets, 2 @ $700	$ 1,400	
Incinerator	500	
Landscaping	6,000	
Subtotal	$56,330	
Contingencies @ 15%	8,450	
Engineering, supervision and overhead @ 20%	11,266	
Total estimate	$76,046	
Total (rounded)		$76,000
TOTAL ESTIMATE, DEVELOPMENT COST		$81,000

TABLE 4

ESTIMATED ANNUAL COST OF OPERATION AND MAINTENANCE
OF CONEMAUGH RIVER RESERVOIR AND DAM

OPERATIONS

Item		Reservoir Management	Regular Operation	Total
Dam and reservoir		$ -	$18,400	$18,400
Stream gaging		-	5,800	5,800
Miscellaneous studies		-	1,900	1,900
Reservoir management		7,400	-	7,400
Salaries: Reservoir Manager, 1/4 of time; 1 Laborer, 8 months per year	$3,550			
Administration of land leases	3,300			
Fire protection and forestry	550			
Total Operations		$ 7,400	$26,100	$33,500

MAINTENANCE

Item		Reservoir Management	Regular Maintenance	Total
Dam and reservoir		$ -	$ 2,800	$ 2,800
Buildings and grounds		-	1,200	1,200
Plant and tools		300	1,300	1,600
Reservoir management		5,070	330	5,400
Maintenance of roads	$1,110		$330	
Reservoir patrol	330			
Signs and markers	330			
Miscellaneous supplies	880			
Maintenance of buildings and utilities	220			
Maintenance of public use area	2,200			
Total Maintenance		$ 5,370	$ 5,630	$11,000

TABLE 4 (contd)

IMPROVEMENT AND RECONSTRUCTION

	Reservoir Management	Regular I and R	Total
Improvement and reconstruction	$ 4,900	$ 6,600	$11,500

Totals:			
Reservoir Management	$17,670		
Regular Operation and Maintenance		$38,330	
Annual Operation and Maintenance			$56,000

VII. ADMINISTRATION

45. General.- It is considered desirable that the development and management of recreational facilities which have primarily State or local governmental interest be undertaken by the appropriate State or local governmental agencies. It is believed, however, that in the absence of sponsorship by such agencies, the Corps of Engineers, subject to the availability of funds and demonstrated public need, should provide and maintain certain minimum public use facilities in the vicinity of the Conemaugh River Dam.

46. The local management of the entire reservoir area, including areas licensed or leased for specific uses, will be the responsibility of the Reservoir Manager, of the Corps of Engineers, Pittsburgh District. It is intended that courteous and efficient service be given to all visitors to the dam and the public use areas adjoining it.

47. Reservoir Rules and Regulations.- Visitors will be expected to observe certain rules in the interests of public safety, health, and the protection of Government property. These rules and regulations will be the same as those which are in effect at other flood control reservoirs administered by the Corps of Engineers of the Pittsburgh District, as contained in the Code of Federal Regulations, Title 36, Park and Forests, Chapter III, Part 311.0 to 311.16 inclusive, published 11 F. R. 9278. Special regulations are to be issued by the District Engineer, as contained in Appendix 6.

48. Law Enforcement.- The police powers of the Commonwealth of Pennsylvania apply to the reservoir area. The enforcement of State and local laws will be the responsibility of State and local police officials, respectively. The Corps of Engineers, through the Reservoir Manager, will cooperate fully with all law enforcement officers. Enforcement of laws relative to game and fish; conservation; forestation; public health, sanitation and safety; and the prevention of pollution, will be particularly encouraged. Personnel of the Corps of Engineers will not be deputized as law enforcement officers.

49. Licenses, Leases, and Permits.- All licenses, leases, and permits necessary for the management and development of the reservoir area will be issued by the Corps of Engineers in accordance with the "Statement of Reservoir Management Policy with Respect to Reservoir Use by Organized Non-Profit Groups, Commercial Operators and Individuals, Corps of Engineers, Pittsburgh District" approved 16 March 1950, by the Office, Chief of Engineers, in 2d Ind. 3 November 1949 to letter from Pittsburgh District to Ohio River Division, subject: "Master Land Use Plan, Youghiogheny River Reservoir, Pa. and Md." revised June 1951.

50. Management Cost.- The total estimated annual cost to the Corps of Engineers for operation and maintenance is $56,000,

of which $17,670 is estimated to be the annual cost of reservoir management. Table 4 gives the amounts estimated to be required annually for regular operation and maintenance of the installation and for reservoir management, which includes the public use facilities proposed for early development. The estimate covers cost of personnel, equipment, materials and replacement and includes 10% for District and Division Offices' overhead.

VIII. CONCLUSIONS

51. It is concluded that:

a. The Master Land Use Plan for the Conemaugh River Reservoir outlined herein provides for a maximum beneficial use of the Federally-owned land in the reservoir area.

b. Conservation of the natural resources particularly relating to agriculture, wildlife, forestry, and recreation are important land use factors in the management of the reservoir area in the public interest.

c. Agricultural uses of the land should continue to the extent practicable under a leasing program, where land is suitable for the purpose, in accordance with the recommendations of the U. S. Soil Conservation Service (Appendix 4).

d. The game management of the reservoir area should be turned over to the Pennsylvania Game Commission as soon as land acquisition is completed.

e. The municipalities of Blairsville, Black Lick and Josephine which adjoin the reservoir area should be given every encouragement to develop adjacent sites in the reservoir for recreational purposes at their own expense under license agreements.

f. The Conemaugh Picnic Area, Unit A, should be developed immediately by the Corps of Engineers.

g. The development of additional recreational facilities will depend upon demonstrated public demand.

h. The order of further development, by the Corps of Engineers, should be Bow Ridge Recreation Area, Unit A, then Unit B and Conemaugh Picnic Area, Unit B; upon demonstrated public need and availability of funds.

IX. RECOMMENDATIONS

52. It is recommended that:

a. The Master Land Use Plan presented herein be approved as a guide for the over-all development and public use of the Federally-owned lands in the Conemaugh River Reservoir area.

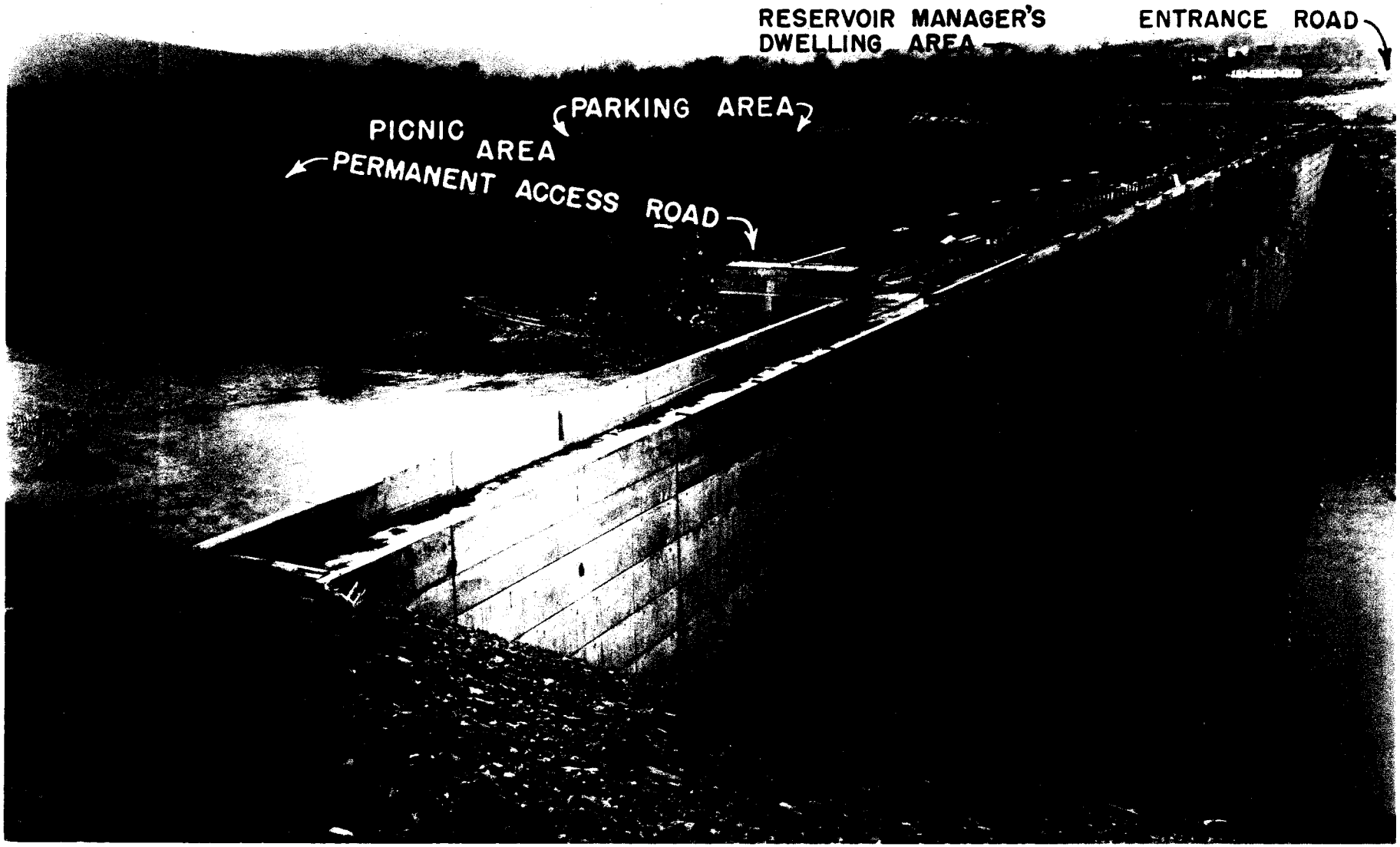
b. The proposed Conemaugh Picnic Area, Unit A, be developed immediately by the Corps of Engineers.

c. The proposed Bow Ridge Recreation Area, Units A and B and the Conemaugh Picnic Area, Unit B, be developed in that order by the Corps of Engineers upon demonstrated public need and availability of funds.

CONRAD P. HARDY
Colonel, Corps of Engineers
District Engineer

Accompanying the Report:
Plates 1-7, inclusive
Exhibits
Appendices 1-6, inclusive

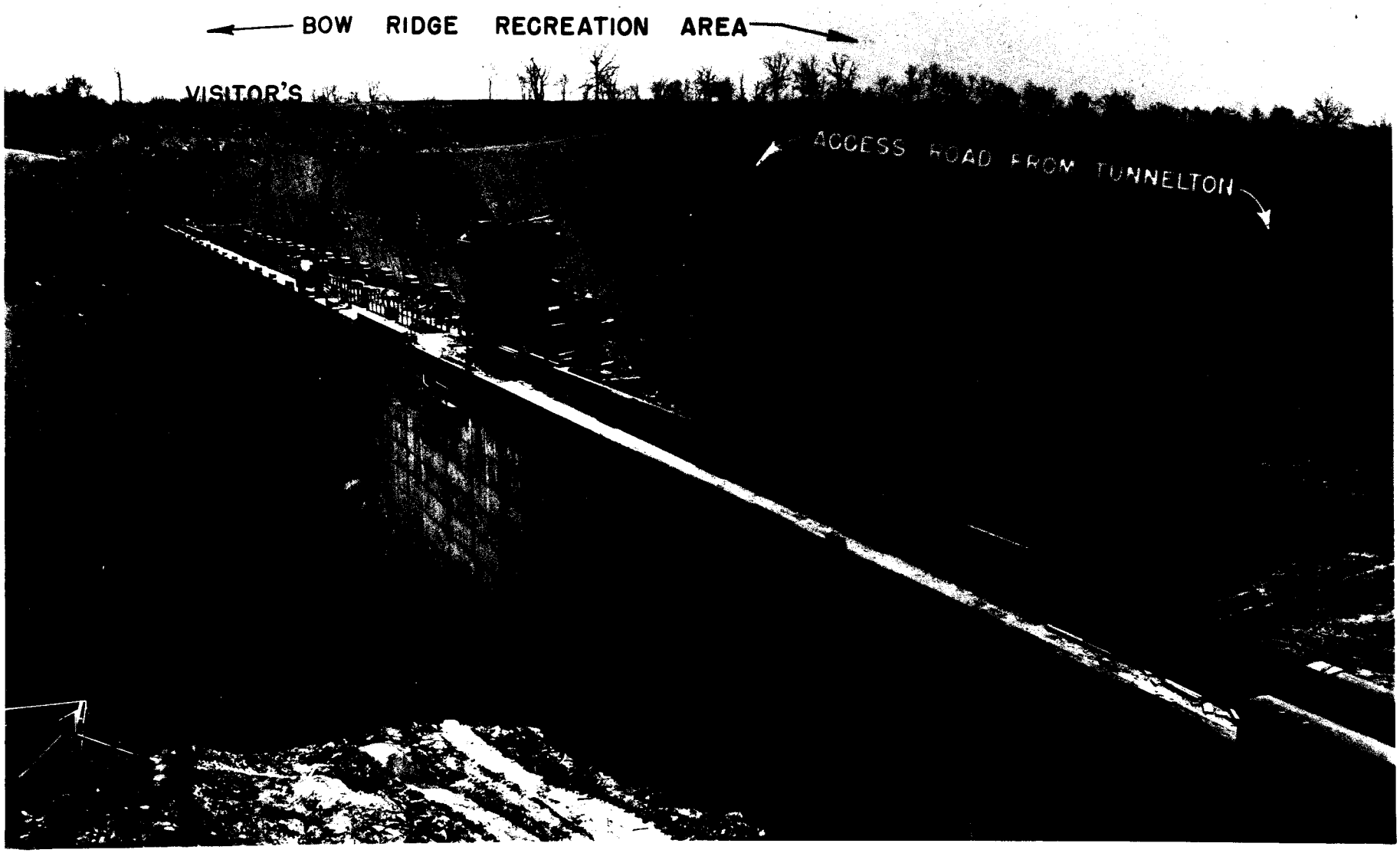
EXHIBITS



CONEMAUGH RIVER RESERVOIR

General view of right bank

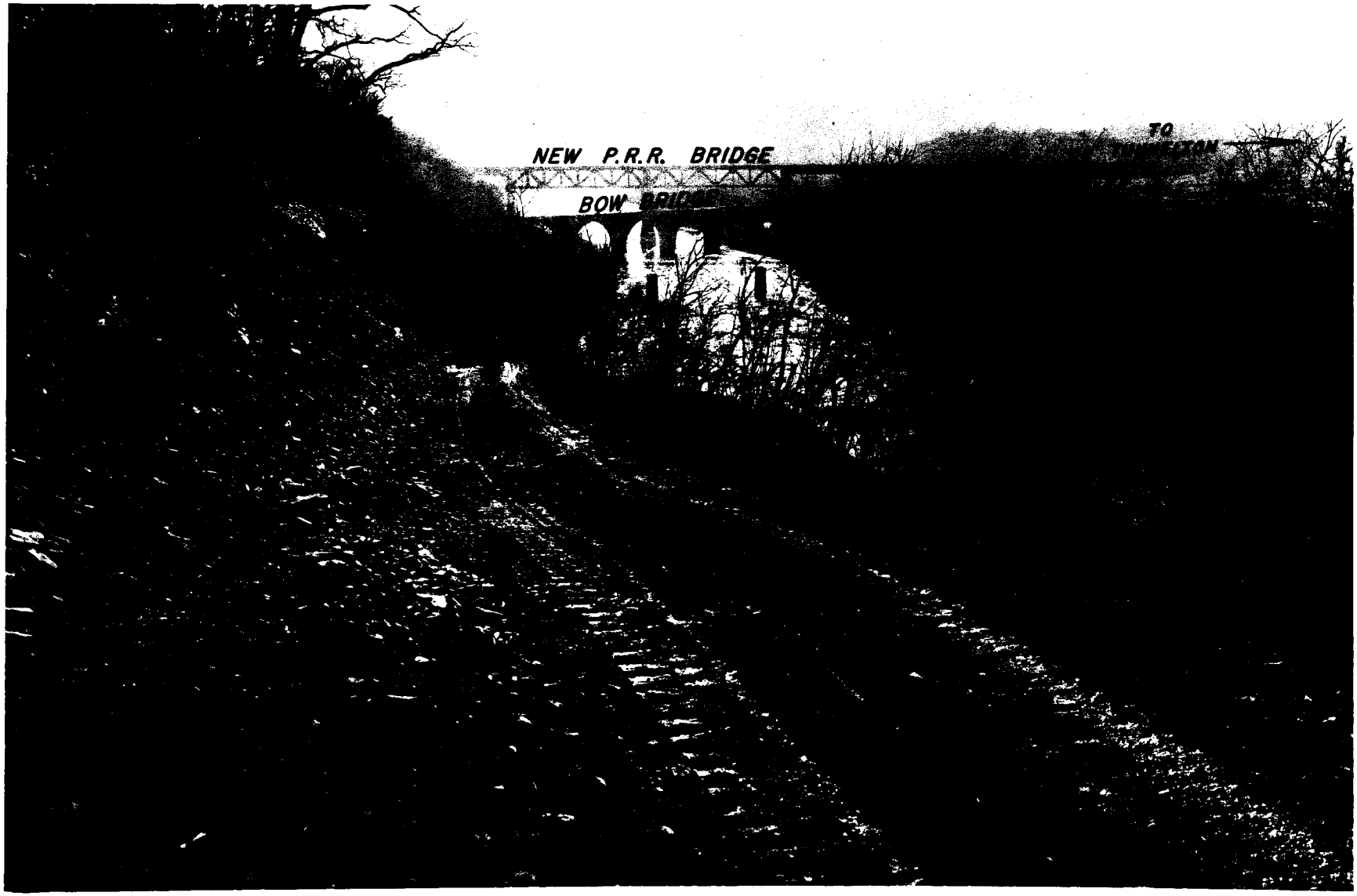
Exhibit 1



CONEMAUGH RIVER RESERVOIR

General view of left bank

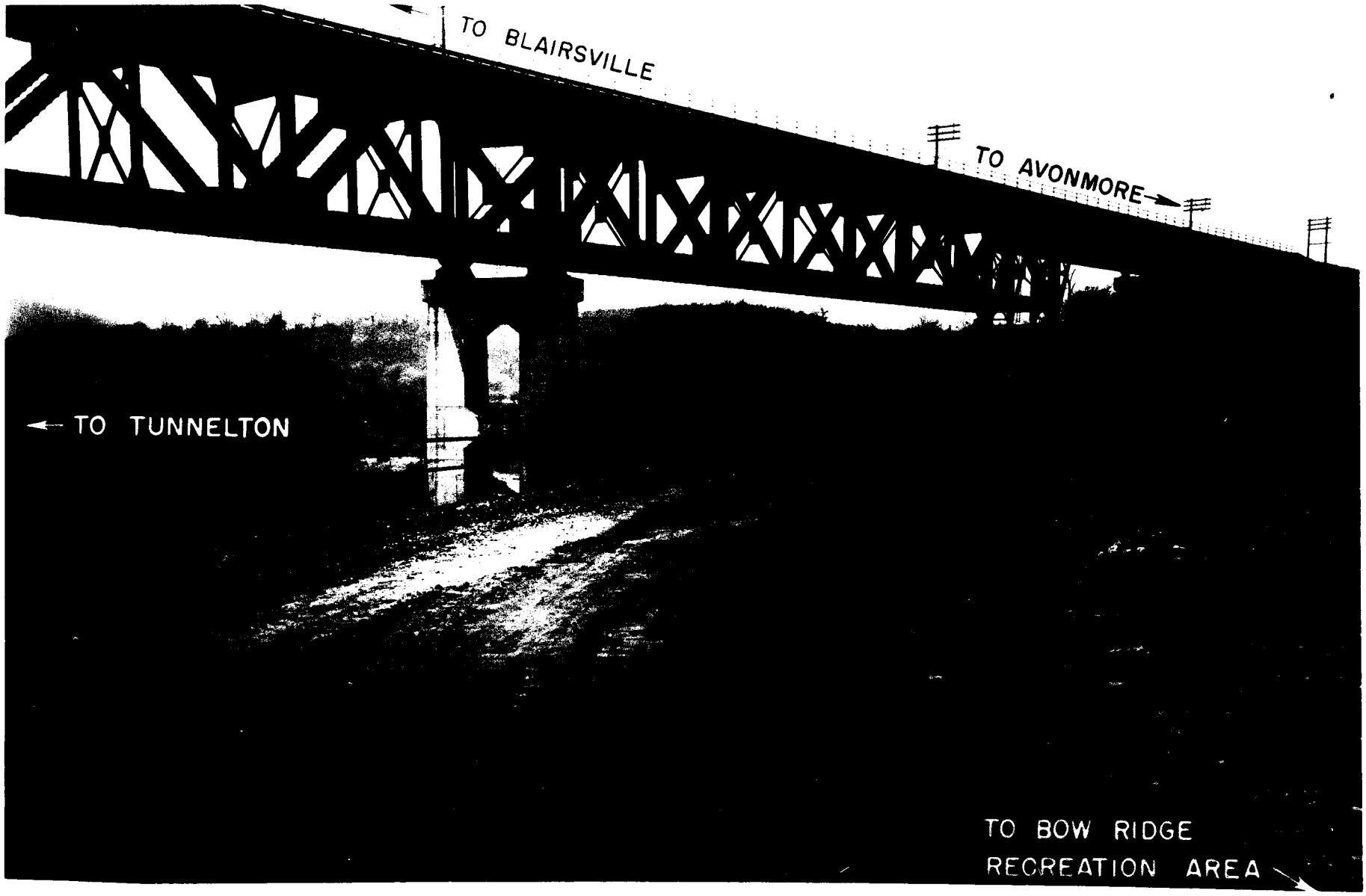
Exhibit 2



CONEMAUGH RIVER RESERVOIR

View downstream from parking area above left abutment showing portion of access road to Bow Ridge Recreation Area.

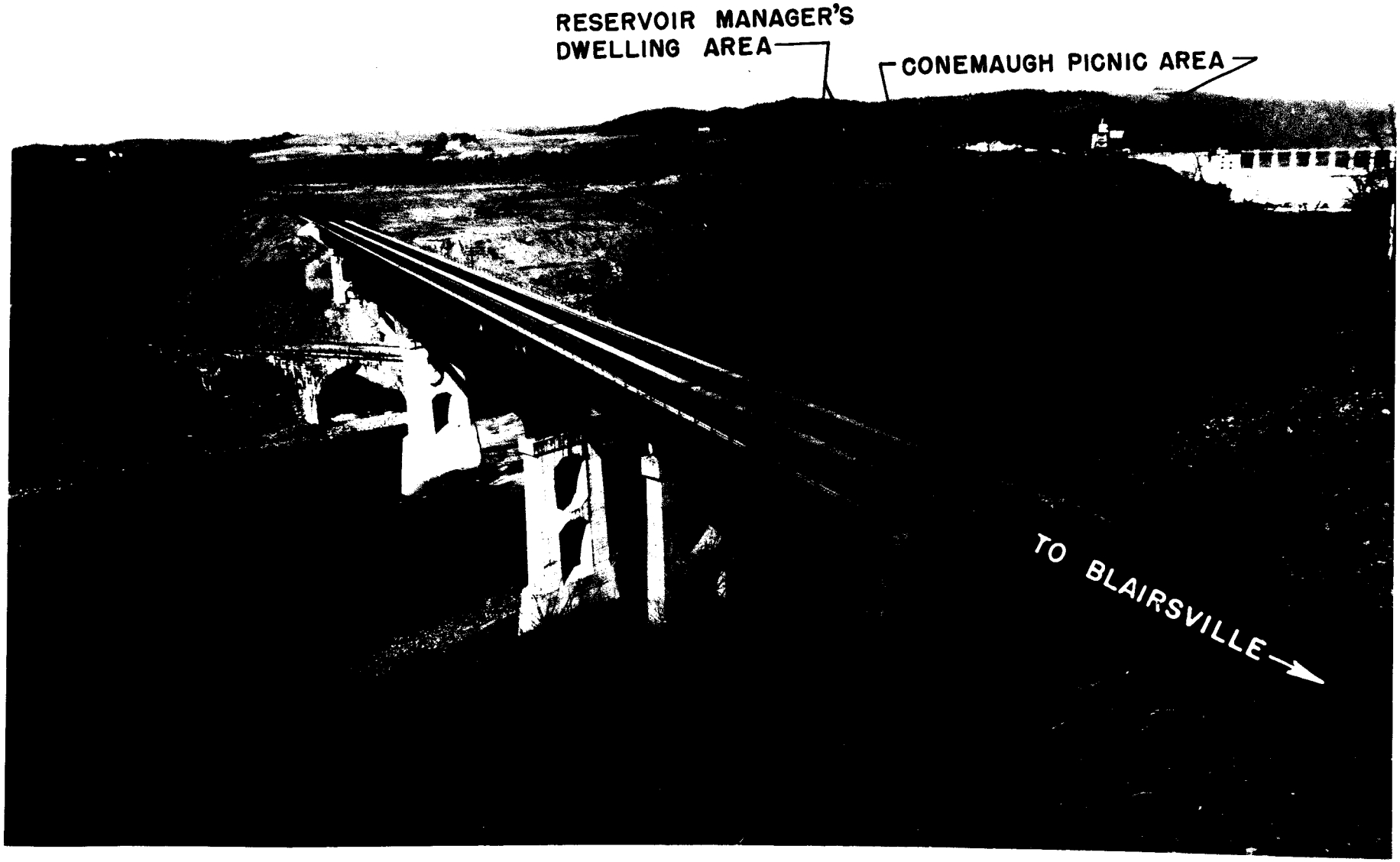
Exhibit 3



CONEMAUGH RIVER RESERVOIR

View from left bank showing old Pa. R.R. Bow Bridge and a portion of the old road-bed to be used as access road between Tunnelton and Bow Ridge Recreation Area.

Exhibit 1



CONEMAUGH RIVER RESERVOIR

General view from left bank across new Pa. R. R. Bow Bridge

Exhibit 5

APPENDIX 1

U. S. FISH AND WILDLIFE REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
OFFICE OF REGIONAL DIRECTOR
BLAKE BUILDING
BOSTON 11, MASSACHUSETTS

IN REPLY REFER TO:
River Basin Studies
Pittsburgh District
Conemaugh Reservoir

December 6, 1949

The District Engineer
Pittsburgh District
Corps of Engineers
925 New Federal Building
Pittsburgh 19, Pennsylvania

Dear Sir:

Enclosed please find ten mimeographed copies of our report on the Conemaugh Reservoir, Kiskiminitas River Subbasin, Allegheny River Basin, Pennsylvania. These copies are forwarded for your information and files.

Very truly yours,

/s/ D. R. Gascoyne

D. R. GASCOYNE
Regional Director

Enclosures 10

UNITED STATES DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service
Washington 25, D. C.

A Preliminary Evaluation Report on the Fish and Wildlife Resources in Relation to the Water Development Plan for the Conemaugh River Reservoir Kiskiminitas River Subbasin Allegheny River Basin Pennsylvania 1/

Planning Agency	: Department of the Army, Corps of Engineers. Authorized by the Flood Control Act (Public Law No. 738, 74th Congress) (H.R. 8455), approved 22 June 1936.
Source of Engineering Data	: River Basin Studies, Basic Engineering Data, U. S. Engineer Office, Pittsburgh, Pa., October 31, 1947.
Situated in	: Indiana and Westmoreland Counties, Pa.
Field Investigation	: April 1948
Report Prepared	: August 1949

1/ Field work and report by River Basin Studies Staff, Fish and Wildlife Service, Region V, Boston, Mass.

ACKNOWLEDGMENT

1. Personnel of the Pennsylvania Game Commission and the Pennsylvania Fish Commission gave valuable assistance during the field investigations.

GENERAL DESCRIPTION OF THE PROJECT

2. The Conemaugh River Reservoir project will be located on the Conemaugh River in Indiana and Westmoreland Counties, Pennsylvania. The proposed damsite is located two miles above Tunnelton, Pennsylvania, 31 miles from Pittsburgh and about 25 miles from Johnstown. A portion of the main freight line of the Pennsylvania Railroad is now being relocated near the damsite.

3. The drainage basin is generally rugged, being roughly trisected by Chestnut Ridge and Laurel Ridge through which the Conemaugh River has cut deep gorges. The perimeter of the Conemaugh Basin on the southeast is defined by the Allegheny Mountains rising nearly 3,000 feet above sea level. On other sides the basin is bounded by foothills of the Alleghenies of lesser heights. The drainage basin has a total area of 1,369 square miles, of which 1,351 square miles are above the proposed damsite. It varies in width from about eight miles at the lower end to about 75 miles at the upper end.

4. The Conemaugh River system flows over and has cut through Mississippi and Pennsylvania rocks of the carboniferous system and lies within the Kanawha section of the Appalachian Plateau. A variable series of shales, sandstones, thin limestones, indurated clays and coal seams belonging to the Allegheny, Conemaugh, and Monongahela formations of the Pennsylvania series form the rim rocks of the reservoir. The soils of the Conemaugh Reservoir area fall into the Gray Brown Podzolic group and into the Westmoreland series. The parent materials are alternate thin beds of limestone, calcareous and acid gray shales, and sandstone.

5. Temperature records are available for Indiana, Pennsylvania, over a period of thirty-two years, the January average being 29.4 degrees and the July average being 71.9 degrees. The average date of the last killing frost in the spring is May 15, and the average date of the first killing frost in the fall is October 3, resulting in an average length of growing season of 141 days. The average annual precipitation for 36 years of record at Saltsburg, Pennsylvania, is 41.23 inches.

6. The Conemaugh River is formed by the junction of Little Conemaugh River and Stony Creek in Johnstown, Pennsylvania, whence it flows generally west to the head of the Kiskiminitas River at Saltsburg. Little Conemaugh River has its source in Cambria County, and Stony Creek has its source in Somerset County. The total combined length of the Conemaugh River and its principal tributary, Stony Creek, is about 93 miles; that of the Conemaugh itself, 52.4 miles. The gradient of the Conemaugh River from its head to mouth is 5.92 feet per mile. An average annual flow of 2,278 second-feet has been recorded at Tunnelton over a period of seven years with extremes of 225 and 45,900 second-feet.

7. The drainage basin is about one-half forested, the remainder of the area either being in cultivation and pasture or in brush and wasteland. Most of the forested land is in the oak-hickory forest type, but the rock oak-pitch pine type is found on the ridge tops. The valleys are quite fertile, and the principal crops are corn, wheat, and hay. Acreages of cover types within the government taking line are shown in Table I.

TABLE I

ACREAGE OF COVER TYPES WITHIN GOVERNMENT TAKING LINE

Cultivation and pasture	2,625
Timber and woodland	1,850
Brush and waste areas	2,275
Town lots and industrial	350
	7,100

8. The Conemaugh dam will consist of a concrete gravity type spillway of ogee cross section flanked by nonoverflow abutments with a short earth embankment structure on the right end. The outlet facilities will consist of 13 conduits 5.67 feet wide by 7 feet high controlled by hydraulically operated slide gates. The spillway will have 14 crest gates and a service bridge with two gantry cranes. Pertinent water level data are listed in Table II.

TABLE II

PERTINENT WATER LEVEL DATA

	Elevation Feet M. S. L.	Reservoir Capacity Acre-feet	Surface Area Acres
Maximum pool (including surcharge)	975	274,000	6,820
Spillway sill	948	128,000	4,150
Top of dead storage	880	4,000	300
Original normal stream surface	852		
Stream bed (at damsite)	848		

9. The usable capacity of the Conemaugh Reservoir will be devoted exclusively to the flood control function with no portion thereof reserved for stream flow regulation, water supply, or other similar uses which would require retention of water in storage over extended periods. In the normal operation of the reservoir the water level will be held at or near the minimum pool elevation 880 until flood conditions require the storage of water for the protection of Pittsburgh and other communities along the streams below. Water stored in the interest of

flood control will be released as soon as downstream conditions permit. The degree of storage impounded during floods will, of course, depend upon their magnitude. Use of the lower levels in the reservoir may be considered as relatively frequent, with use ranging from that condition to a relatively rare filling of the entire reservoir.

FISHERY SECTION

10. The grossly polluted condition of the Conemaugh River and its major tributaries with acid mine drainage and with acid-industrial wastes precludes any need for a discussion of the fishery resources. There have been no fish and few aquatic organisms in the stream for many years, and the prospect of a fishery resource becoming established in the future is poor.

WILDLIFE SECTION

A. Preproject evaluation

11. The reservoir area is roughly one-third forested, one-third under cultivation, and one-third is brush and wasteland. The forested land is largely of the oak-hickory forest type. A considerable area of old fields are reverting back to brush, wild crabapple being the most predominant species on these areas. Aspens and alders are also invading the fields in some locations. The principal crops in the valley are corn, wheat, and hay.

12. The white-tailed deer is the only big-game animal found within the reservoir area. The deer population in Indiana and Westmoreland Counties is quite high and apparently a considerable portion of the kill, especially in Indiana County, occurs along the Conemaugh valley within the proposed reservoir area. The big-game resource within the maximum flow line is estimated to have an annual preproject value of $5,000.

13. The upland-game species of the reservoir area are the cottontail, ring-necked pheasant, gray squirrel, bob-white quail, ruffed grouse, woodcock, and mourning dove. Cottontails, pheasants, and squirrels are the most common and popular upland game species in the valley. Many rabbits and pheasants are stocked by the Game Commission and by local clubs, and they are heavily hunted by local as well as urban sportsmen. Quail, doves, woodcock, and grouse are of minor importance in the upland-game resource. The annual preproject value of this resource is estimated at $1,400.

14. The muskrat, raccoon, skunk, weasel, opossum, gray fox, and mink are the fur bearers present on the reservoir area. The aquatic and semi-aquatic species such as mink, muskrat, and raccoon, are more common along the smaller tributary streams which are not polluted. The main stream does support some muskrats, however, as signs were observed at several locations. Undoubtedly, the aquatic fur-animal resource is limited by the polluted condition of the water and the

resulting barren environment. The preproject fur-animal resource has an annual value of $1,300.

15. Waterfowl are occasionally observed on the Conemaugh River during migration and a few birds are killed there. Little waterfowl food is available, however, and the waterfowl resource is insignificant.

16. The area within the maximum flow line of the Conemaugh Reservoir is of considerable importance as a wildlife habitat. This valley supports some of the best wildlife populations in the southwestern part of Pennsylvania. Ring-necked pheasants and cottontail rabbits are the most popular species of the area, but the deer herd and the fur animals are of considerable importance also.

17. The total annual preproject value of the wildlife resources of the Conemaugh Reservoir area is estimated to be approximately $7,700.

B. Postproject evaluation

18. The Conemaugh Reservoir will permanently inundate approximately 300 acres of the present stream bed and small areas of bottom land. As the project will be operated only for flood control, no data are available on the various pool levels throughout the year. It is assumed that the lower levels in the reservoir will be inundated at relatively frequent intervals, but that the entire reservoir (6,820 acres) will be filled only on rare occasions. Water stored in the interest of flood control will no doubt be released as soon as downstream conditions permit, but little concrete information is available on the duration of flooding.

19. In view of the paucity of hydraulic data, predictions of postproject wildlife conditions are difficult to make. Floods are likely to occur during the fawning season and some loss to the big-game resource seems inevitable. The annual postproject value of this resource has been estimated at $4,300.

20. Upland-game species may lose large numbers of young when periods of severe flooding coincide with the breeding season. In other years this loss may be insignificant. Much of the inundated area is expected to recover rapidly after flooding, unless the water is held for extended periods, but with occasional losses during the breeding season the upland-game resource is certain to be reduced in value. The annual postproject value of this resource has been estimated at $1,000.

21. Fur animals will probably be affected adversely by the project especially if flooding occurs during the season when young are in their dens. Upland species should not suffer severely, but the mink and muskrat populations may be considerably reduced, especially along the lower sections of the impoundment. The annual postproject

fur-animal value is estimated to be $900.

22. The Conemaugh Reservoir is not expected to be attractive to waterfowl due to the acid condition of the water and the barren shore line that will probably be created following impoundment. A few migrating birds will no doubt utilize the area for resting but its postproject value for waterfowl will be insignificant.

23. The area within the government taking line at the Conemaugh Reservoir and above the 880-foot contour will continue to be of great value to both the local and the urban hunter. The value of this area and the surrounding land will be greatly enhanced by any wildlife development work by state or federal agencies.

24. The total annual postproject value of the wildlife resources of the Conemaugh Reservoir area is estimated to be approximately $6,200. The preproject and postproject wildlife values are summarized in Table III.

TABLE III

SUMMARY OF WILDLIFE VALUES

Item	Preproject Value	Postproject Value	Difference
Big game	$ 5,000	$ 4,300	-$ 700
Upland game	1,400	1,000	- 400
Fur animals	1,300	900	- 400
Waterfowl	insignificant	insignificant	---
	$ 7,700	$ 6,200	-$ 1,500

MEANS OF MITIGATING LOSSES AND DERIVING MAXIMUM BENEFITS

25. The valley of the Conemaugh River supports fine populations of small game and is an important area for deer and fur animals. Only a small portion (300 acres) of the land to be acquired by the government will be totally lost, but periodic flooding of the remainder will certainly decrease its wildlife value. The Pennsylvania Game Commission operates about 850 acres of privately-owned land within the reservoir area as Cooperative Farm Game Project No. 85. In return for the use of his land for public hunting purposes, the farmer is given reasonable protection against careless hunters, and the exclusive control of hunting in the safety zone in the immediate vicinity of his buildings. He is also offered assistance to apply farm practices mutually beneficial to himself and wildlife. This system of

cooperatives is providing public hunting grounds on good farm lands near centers of population.

26. It is assumed that former land owners and adjacent farmers will lease a considerable acreage of the reservoir area from the government. Continued cultivation will undoubtedly be beneficial to farm-game species, but the lessee should cooperate fully in programs for the management of wildlife to mitigate the losses sustained by periodic flooding. The Pennsylvania Game Commission has indicated a desire to administer certain parts of the reservoir area under license from the Department of the Army and to manage these areas in cooperation with the lessees. This cooperative agreement between the commission and the Corps of Engineers should enhance the value of these reservoir lands for wildlife and ultimately result in greater production in this area.

27. An additional value of $1,500 annually is assigned to the postproject area if a license is issued to the Pennsylvania Game Commission and if the lessees of the agricultural areas are required to adhere to the stipulations listed in the recommendations of this report. This value is expected to accrue through enlargement of the established farm-game program and the subsequent increased yields on these areas. Unless the Game Commission has the free use of certain portions of the valley and the complete cooperation of the lessees, the Conemaugh Reservoir project will show a loss of approximately $1,500. This loss will be nullified, however, with the issuance of a license to the Game Commission and with full cooperation from the lessees.

RECOMMENDATIONS

28. It is recommended that:

(1) All agricultural land within the reservoir area be leased to farmers, if possible.

(2) The lessees enter into and carry out the terms of a soil conservation agreement with the Soil Conservation District at such time as this service is made available.

(3) The lessees cooperate in programs for the management of fish and wildlife and in furtherance thereof the leased premises be subject to free public use for fishing and hunting.

(4) The portions of the reservoir area not under lease be open to free use by the public except such portions as may be reserved by the planning agency for the purpose of safety, efficient operation, or protection of public property.

(5) The leased premises be subject to the right of the Pennsylvania Game Commission to use the premises as a free public shooting ground or as a wildlife sanctuary in which no hunting or trapping will be permitted.

(6) Management and supervision of the wildlife resources of the entire Conemaugh River Reservoir area be vested in the Pennsylvania Game Commission.

SUMMARY

29. Inasmuch as this report is based on the planning agency's proposals for the development of the Conemaugh River Reservoir made prior to September 30, 1948, the Fish and Wildlife Service should be advised of any changes in plans for structures or methods of operation, so that a new fish and wildlife report can be prepared if deemed necessary.

30. The preproject wildlife resources within the proposed Conemaugh River Reservoir have an estimated annual value of $7,700 and the postproject wildlife resource under the proposals of the planning agency has an estimated annual value of $6,200. There is no fishery value within the reservoir area at present and none is anticipated in the foreseeable future. The adoption of Recommendations 4 and 6 is assumed in assigning these values.

31. The net effect of the project will be detrimental to the wildlife resources if the project is built and operated as proposed by the planning agency. The net annual loss is estimated to be $1,500.

32. An additional value of $1,500 can be derived from the project, however, if Recommendations 1, 2, 3, and 5 are followed. By following these recommendations the losses will be balanced by benefits and the project will not result in any change to the wildlife resources. The losses and benefits are summarized in Table IV.

TABLE IV

SUMMARY OF WILDLIFE VALUES

	Preproject	Postproject	Difference
Present Plan	$ 7,700	$ 6,200	-$ 1,500
Recommended Plan	7,700	7,700	---

E. V. Bailey
Acting Regional Director
November 4, 1949

TABLE IV

SUMMARY OF WILDLIFE VALUES

	Preproject	Postproject	Difference
Present Plan	$ 7,700	$ 6,200	-$ 1,500
Recommended Plan	7,700	7,700	---

E. V. Bailey
Acting Regional Director
November 4, 1949

APPENDIX 2

NATIONAL PARK SERVICE REPORT

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION ONE
RICHMOND, VIRGINIA

September 8, 1950

District Engineer
Pittsburgh District
Corps of Engineers
925 New Federal Building
Pittsburgh 19, Pennsylvania

Dear Sir:

Pursuant to request in your letter of July 24, 1950, the recreational resources incident to the reservoir on the Conemaugh River, Pennsylvania were investigated by Park Planner Allen T. Edmunds of this office on August 11, 1950, in cooperation with Messrs. Raymond W. Blanchard and C. J. Mueller of your office.

Copies of this letter and the report are being forwarded to the Division Engineer, Ohio River Division, in accordance with established procedure. One additional copy of the report is being provided to your office so that, if you deem it desirable, you may send it to the Director of the Bureau of Parks, Department of Forests and Waters, Harrisburg, Pennsylvania.

Sincerely yours,

Elbert Cox
Associate Regional Director

Enclosures (3)

COPY

RECONNAISSANCE REPORT

RECREATIONAL RESOURCES

OF THE

CONEMAUGH RESERVOIR

PENNSYLVANIA

CODE NO. XIII/33

Compiled by

U. S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION ONE

For the information of

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
PITTSBURGH DISTRICT

Prepared: September 8, 1950

/s/ Allen T. Edmunds

Allen T. Edmunds Park Planner

Approved: September 8, 1950

/s/ Elbert Cox

Elbert Cox, Associate Regional Director

TABLE OF CONTENTS

	Page No.
Body of the Report	
Introduction	3
Summary of Findings, Conclusions, and Recommendations	4
General Description of Area	6
Factors Influencing Recreational Development	8
Estimates of Recreational Need and Use	10
Recommended Recreational Development	12
Recommended Plan of Agency for Administration, Operation and Maintenance	13
Recommended Further Study and Planning	14
Appendix to the Report	
Basis for Investigations and Reports	A-1
Potentialities of Reservoirs	A-2
Types of Recreational Use	A-3
Recreational Preferences	A-5
Prediction of Park Day-Use	A-6
Manner of Development and Operation	A-8
Planning for Recreational Use	A-10

INTRODUCTION

Pursuant to request in letter of July 24, 1950, from the District Engineer, Pittsburgh District, Pittsburgh, Pennsylvania, to the Regional Director, Region One, National Park Service, investigation has been made of the recreational potentialities of the Conemaugh Reservoir in Pennsylvania. This report records findings and certain recommendations arising from field study carried out August 11, 1950, by Park Planner Allen T. Edmunds in cooperation with Messers. Raymond W. Blanchard, and C. J. Mueller, Landscape Architects, of the Corps of Engineers, Pittsburgh District.

The basis for investigations and reports concerning the recreational and historical potentialities of reservoir planned, under construction, or being maintained by the Corps of Engineers is contained in an Appendix to the report (page A-1).

The Smithsonian Institution has been informed of National Park Service review of the recreational resources of the Conemaugh Reservoir site. No investigation of the archeological and historical significance of the area has been made in recent years, to our knowledge.

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The investigation of August 11, 1950, and study of data and information available from sources, prompt the following findings, conclusions, and recommendations.

1. The purpose of the reservoir investigated is for flood control. Fluctuation in pool elevation during the summer use season is not expected to exceed 5 feet. This factor will not deter the adaptation of selected sites for recreational use.

2. The proposed reservoir lies mostly in the Allegheny Mountain Section of the Allegheny Plateau. Elevations run up to 1,500 feet and the terrain is characterized by sharp ridges and deep valleys.

3. Characteristics of population within day-use range of Conemaugh Reservoir are definitely urban. The industries of Pittsburgh influence the types of occupation found in this area.

4. The types of recreation for which Conemaugh Reservoir is most suitable would include picnicking and boating. If the waters of the reservoir become relatively free of pollution, activities such as swimming, fishing, camping, etc., may be added to this list.

5. What appear to be the most desirable areas for recreational development on the reservoir are located near the dam site. A picnicking site on the right bank and a boat launching site on the left bank, both accessible from Tunnelton, Pa., are believed to have advantages over other sites.

6. It is estimated that the Conemaugh Reservoir would attract an annual day-use visitation, exclusive of those interested only in sightseeing, of 70,000 persons, providing adequate picnicking and boat launching sites can be found and properly developed. If the water of this reservoir becomes relatively free of pollution it is believed that the estimated attendance will more than double.

7. Excess lands which are suitable for game refuges should be offered to the game agency in Pennsylvania.

8. In development of the land use plans, after further field study, consideration should be given to commercial furnishing of services and supplies, and to private cabin sites.

GENERAL DESCRIPTION OF THE AREA

The dam site is on the Conemaugh River, on the boundary line of Indiana and Westmoreland Counties, approximately 4 miles west of Livermore and forty miles east of Pittsburgh, Pennsylvania.

The Conemaugh Dam is now under construction (estimated 30% complete) and, subject to the appropriation of adequate funds, is scheduled for completion in 1953. The purpose of the reservoir is for flood control.

The plans call for maximum pool elevation of 975 and minimum pool elevation of 880. The reservoir surface when full would contain 6,820 acres. The reservoir surface at elevation 880 would contain 300 acres and have a length of 6.6 miles. The conservation pool would normally maintain a consistent level with the fluctuation equaling approximately five feet during the summer use season. The drainage area of the Conemaugh River Basin above the dam site contains 1,351 square miles. In view of the information given above recreational facilities should be placed above elevation 975.

A discussion of the general potentialities of reservoirs for recreational use will be found in Appendix page A-2. Application of several factors to be considered in appraising recreational possibilities as applied to Conemaugh Reservoir is described in the next few pages.

The Conemaugh Reservoir lies mostly in the Allegheny Mountain Section of the Allegheny Plateau although the dam site is about on the boundary line of the Pittsburgh and Allegheny Mountain Sections. Elevations run up to 1,500 feet and the ridges are sharp and clearly defined. It is very difficult to find sufficient flat land adjacent to the reservoir suitable for the development of recreational facilities.

The water of the Conemaugh River is polluted by acid mine drainage and by acid industrial wastes. So long as this condition exists, recreational use of the reservoir will be somewhat deterred.

The annual mean temperature for the area is about 50° F. The mean temperature March to October inclusive is about 58° F. Only a limited number of winter sports could be enjoyed in this area.

The recreational value of Conemaugh Reservoir lies in its accessibility from a large population center. The types of recreation for which the Conemaugh Reservoir is most suitable would include picnicking and boating. If at some time in the future the waters of this reservoir become relatively free of pollution its recreational value will increase greatly and its use by fishermen and swimmers will increase attendance figures tremendously.

The present recreational value of the lands is not uncommon for that section of the State. A body of water within the hills and ridges of this area will increase its scenic attractiveness. Apparently little recreational use was made of the site before construction of the dam was started.

FACTORS INFLUENCING RECREATIONAL DEVELOPMENT

In page A-6 of the appendix will be found a general dissertation on prediction of day-use. Characteristics peculiar to Conemaugh Reservoir will be discussed in the following paragraphs:

The relation of communities and rural population within day-use range of the dam is indicated in the tabulation which follows:

County	Distance	1940 Total	Urban	% Urban	Rural
Indiana	17	79,854	18,134	23	61,720
Westmoreland	19	303,411	146,573	48	156,838
Cambria	30	213,459	114,567	54	98,892
Allegheny	40	1,411,539	1,183,831	84	227,708
Armstrong	50	81,087	23,562	29	57,525
Somerset	50	84,957	17,737	21	67,220
Fayette	50	200,999	49,791	25	151,208
Totals		2,375,306	1,554,195	65	821,111

* 1,994,060 in Metrop. District (50 miles)

Cities			
Indiana	17	10,050	
Greensburg	19	16,743	
Johnstown	25	66,668	
Pittsburgh	38	671,659	(Metrop. District - 1,994,060)
Kittanning	48	7,550	
Somerset	48	5,430	
Uniontown	50	21,819	

All or parts of seven counties lie within day-use range of Conemaugh Reservoir dam site. They contain 2,375,306 persons, 65% of whom live in urban areas.

The distance people will travel for recreation is affected directly by their economic level. The economic level of the people of Pennsylvania is just below the nation wide average. A slightly lower percentage of people from this state will travel 20 miles for recreation than from the United States as a whole.

There are a number of Federal, State, County and Municipal areas within day-use range of Conemaugh Reservoir which will draw from the same population centers. Crooked Creek Reservoir, which drew an attendance of 201,000 visitors in 1949, lies within 38 miles of Conemaugh Reservoir and is about the same distance as Conemaugh from Pittsburgh. Loyalhanna and Mahoning Reservoirs are within 15 miles and 48 miles respectively of Conemaugh Reservoir. Keystone State Park is within 12 miles; Bushy Run Battlefield, 25 miles; Kooser State Park, 40 miles, Blue Knob State Park, 45 miles; and Laurel Hill State Park, 55 miles. Allegheny County and the city of Pittsburgh have extensive park and recreational areas that serve thousands of residents of greater Pittsburgh.

ESTIMATES OF RECREATIONAL NEED AND USE

The general types of recreational use to which reservoirs are adapted are listed and discussed in the appendix to this report on page A-3. In addition, the broad field of recreational preferences is discussed on page A-5 of the appendix to this report. Specific consideration of Conemaugh Reservoir reveals the following possibilities.

Day-use. During the construction period of the dam it is understood, from officials at the project, that an average of 1,200 people visit the dam site each Sunday. There has been provided for the convenience of visitors a small picnic site near the parking area and above the spectator observation platform. Upon completion of construction, there will continue to be a number of sightseers who will visit the reservoir. There will be no attempt to predict this use, as it is assumed that the Corps of Engineers has reliable data concerning this type of use.

The anticipated annual day-use visitation, exclusive of those interested only in sightseeing, is estimated as approximately 70,000 persons, providing adequate picnic and boat launching sites can be found and properly developed. This estimate is based on present developments of areas within day-use range of the reservoir and takes into consideration the present condition of the water. If the water of this reservoir becomes relatively free of pollution it is believed that the estimated attendance will more than double.

Access to the reservoir can be obtained from secondary roads off State Highways No. 80 and 982. Through the use of the abandoned railroad bed and bridge from Tunnelton, Pennsylvania and an old township road, long since abandoned, both banks of the reservoir may be reached at the dam site. Secondary roads leading off U.S. and State highways will afford access to the reservoir at several points.

An area that seems more adaptable to possible development and use than any other reviewed at the reservoir, is located near the dam site. On the right bank, above the present temporary picnic area, there is land available for the development of a permanent picnicking area. The land is well wooded, and of sufficient altitude to provide an excellent view of the reservoir. On the left bank, directly opposite the dam site is a flat piece of land, resembling a plateau, which provides a worthy panorama of the reservoir. From this plateau, the land slopes none too gently to the water edge. It would be possible, however, to construct a winding road to the reservoir and provide a launching dock for pleasure boating. Both banks of the reservoir are well wooded. Access to these sites can be obtained from Tunnelton as described in the preceding paragraph.

The Corps of Engineers has already taken land back to and including the old railroad bed.

Another site reviewed, but not given too much consideration, is located near the village of Livermore at the upper end of the conservation pool. The land slopes so gently at this point, however, that facilities, to be above maximum flood pool, would have to be erected nearly a half-mile from the conservation pool water level. Also the land at this site is open and used for the growing of crops and livestock. Here again the Corps of Engineers has taken the land for a considerable distance back from maximum flood levels to include the abandoned railroad bed. Access to this site can be gained from secondary roads leading off State Highway No. 982.

It is recommended that access to the reservoir for launching of boats be provided at points where the shore is reached from secondary roads which now traverse the reservoir area.

Summer Home Sites. There may be some demand for leased sites upon which private cabins may be established. The reservoir could provide for a limited amount of this type of accommodation. Provision for access and utilities should be the responsibility of the individual and not that of the Corps of Engineers. Care should be exercised in the allocation of summer home sites so that they do not utilize space needed for fishing access, boat launching, and other forms of public use.

RECOMMENDED RECREATIONAL DEVELOPMENT

The Pennsylvania Park, Parkway and Recreational Area Study Report of 1938, prepared by the State Planning Board and the Department of Forests and Waters in cooperation with the National Park Service, indicated the need for additional park acreage in the Pittsburgh and Johnstown areas. It was stressed, however, that acreage was needed within short distances of metropolitan areas. Since 1938 a considerable amount of this expressed need has been met by the development of facilities on Corps of Engineers reservoirs, additional State Parks, and County and Municipal areas.

It appears that provision of facilities for picnicking and boat launching should be considered on the Conemaugh River Reservoir. As mentioned before, if the waters of the reservoir become free of pollution, provision could be made for swimming, fishing, and camping in addition to those facilities mentioned above.

RECOMMENDED PLAN OF AGENCY FOR ADMINISTRATION, OPERATION, AND MAINTENANCE

Page A-8 in the appendix to this report discusses this subject in general terms. Specific application to Conemaugh Reservoir will be recommended below.

Commercial Agencies. The types of recreational opportunities offered in the sites suggested on Conemaugh Reservoir indicate the desirability of leasing to private enterprises the privilege of setting up shore-side establishments catering commercially to the needs and desires of those using the reservoir. Such leases should be under the control and supervision of the Corps of Engineers.

In the event the waters of the reservoir become sufficiently pure for swimming and fishing, the increased use and required developments will be sufficient to warrant administration, operation and maintenance of facilities by the Pennsylvania Bureau of Parks, if that agency expresses interest in the project.

RECOMMENDED FURTHER STUDY AND PLANNING

The resources of the proposed reservoir are not considered sufficient to warrant the preparation of master plans at the scale of the Denison Report, mentioned on page A-10 of the appendix.

The first two steps listed on page A-11 of the appendix to this report should be carried out.

If commercial agencies should wish to develop and operate limited day-use facilities on land around the reservoir, areas desirable for this purpose should be turned over to them under permit.

The development of day-use facilities should be so planned that buildings and other structures which would be damaged by inundation are placed above elevation 975.

APPENDIX TO REPORTS TO THE CORPS OF ENGINEERS CONCERNING RECREATIONAL RESOURCES OF RESERVOIRS

BASIS FOR INVESTIGATIONS AND REPORTS

Section 4 of the Flood Control Act approved December 22, 1944, provides that "The Chief of Engineers, under the supervision of the Secretary of War, is authorized to construct, maintain, and operate public park and recreational facilities in reservoirs under the control of the War Department, and to permit the construction, maintenance, and operation of such facilities."

The Chief of Engineers, in a letter of February 23, 1945, requested of the Director of the National Park Service the cooperation of that agency in connection with administration by the War Department of Section 4 of the Flood Control Act. This cooperation was extended by the Director's reply of March 12, 1945.

Circular Letter No. 3579 (General No. 157) from the Office of the Chief of Engineers, dated February 26, 1945, stated concerning the authorization that "it is desired that in so far as possible the development and management of public park areas be handled by State or local Government agencies or by the National Park Service in the few instances where that Service may be interested, subject to approval by the (War) Department of the general plan of development proposed by such agencies."

The Smithsonian Institution will be notified by the National Park Service of all reservoirs concerning which review of recreational and historic resources is requested by the Corps of Engineers. Under the terms of a Memorandum of Understanding between the Smithsonian Institution and the National Park Service, the Smithsonian Institution will then bring to the attention of the National Park Service significant archeological remains which will be disturbed by reservoir construction or field research which should be performed by the Smithsonian Institution before construction is completed. If advisable, such information will be furnished to the District Engineer in the form of a supplement to the recreational report.

POTENTIALITIES OF RESERVOIRS

The act of damming a stream does not make the impounded water desirable for all types of recreational pursuits. In fact, the criteria which dictate selection of locations for dams primarily to provide recreational water may be at wide variance from those which obtain in seeking power development, pollution and abatement, or flood prevention. As an aid in evaluating the recreational possibilities of any reservoir it is advisable to examine the characteristics which make a lake, whether natural or artificial, desirable for purposes of recreation.

(a) Its waters should be relatively clear and pure. These conditions are most easily obtained by utilizing comparatively small streams near the head of the watershed and unpolluted by industrial or agricultural activities above the site, yet of sufficient flow to avoid stagnation.

(b) Its level should be fairly constant. Fluctuations which expose long reaches of muddy slopes, particularly during the summer season, are not attractive to the vacationer and preclude provision of suitable swimming facilities. Reservoirs which will be subject to heavy seasonal fluctuation are thus revealed as of doubtful value for park or recreational purposes.

(c) Its outline and setting should be pleasing. Long narrow pools, hardly emerging from the confining stream channels, are not ideal. A diversified shore line, with flat-topped promontories partly encircled by and overlooking coves or arms of the lake lends itself to an effective distribution and arrangement of cabin colonies and other recreational features. The shores should be pleasingly wooded, and of definite slope, to avoid marshy or swampy, mosquito-breeding spaces, yet with sufficient comparatively level uplands to permit the placing of necessary facilities.

(d) Its possibilities for fishing should be good. Perhaps the streams which feed it are already the natural habitat of sport fish; perhaps the proposed impoundment is such as to lend itself well to a program of restocking.

(e) Its location should be in proper relationship to population masses and to other lakes which have been or may be developed for park and recreational purposes. There is little use in providing extensive facilities for day-use in a location accessible only to a few persons. It is unwise to plan elaborate facilities for a location which is already served adequately by existing developments, or could be served better by development of other available sites, or by expansion of existing facilities.

TYPES OF RECREATIONAL USE

The various types of recreational use which may be served by reservoirs are broadly classified as follows:

Tourist. Sites suitable for recreation about a reservoir should be reached directly by major travel routes if tourist use is to be expected. The long-distance, recreation-seeking traveler by motor car tends to preselect a route over main highways and to deviate little from it, unless to reach well-known and advertised features. Tourist travel brings much profit to commercial enterprises located along the main highways, but little use to recreational facilities not directly available from them. True, there are those, loosely termed as tourists, who travel the roads, perhaps from far-distant states, to reach a special recreational objective and there remain for several days or weeks of vacation pleasuring. Such travel should properly be classified as a means to reach vacation spots rather than as tourism as an end. Publicity which is usually attendant upon undertakings of this nature may well increase sightseeing travel to it during the period of construction and for some time thereafter.

Vacation. Vacation use, as related to the rural environment in which most reservoirs are situated, may be defined as the spending of periods ranging from several days to the whole season, by individuals, families, or groups, in recuperative and relaxing processes, amid restful surroundings which are usually entirely different from those in which the daily breadwinning is carried on throughout the remainder of the year. Overnight accommodations are involved, whether in hotel, lodge, cabin, or camp-ground. As might be expected, greater use is made of vacation facilities in a rural setting by urban dwellers than by those whose year-round homes are in the country.

Day-use. Day-use implies the same recuperative processes, in relaxing surroundings, but for periods of less than a single day, so that remaining away from home overnight does not enter into the picture. As a general rule, most day-use of a rural park originates within 50 miles of the area, and all of it within 100 miles. Distances to which vacation-users will travel are considerably greater; as a nation-wide average the proportion of the population of any community which will visit a given park varies inversely as the 1.7 power of the distance separating the home and the recreational objective.

Day-use may itself be partitioned into two subdivisions, those activities which are dependent upon more or less formalized facilities and those which do not require such provisions. Swimming, with its bathhouses, piers, floats, and similar accessories is typical of the

first; fishing and picnicking are often independent of special facilities, although there are those who esteem the angler's art more highly when pursued from a boat, and who prefer a permanent barbecue-pit to the impromptu camp-fire.

Organized Camping. This is really a special form of vacation-use. Under it, facilities are so provided and administration so arranged that organized groups are afforded the opportunity for one or two weeks of healthful recreation, in ideal surroundings, which they would otherwise not be able to enjoy. Its application is usually to youths rather than to adults, and because of the organized nature of the undertaking costs are apt to be less for the individual camper than if he arranged his own vacation. Programs are often sponsored, and sometimes subsidized, by such agencies as the Boy Scouts, Girl Scouts, YMCA, YWCA, Future Farmers of America, Rotary Club, Lions Club, and various church organizations. Facilities are sometimes developed by the sponsors, and at other times developed by a governmental agency and used by the sponsor under lease or permit procedure. The type of development has become more or less standardized, through experience, into facilities which group about 24 campers together under the direct supervision of their leaders, and then regroup two, three, or four of the 24-camper units for general activities such as eating, swimming, etc.

Private Cabins. Many families from the more fortunate economic strata are able to satisfy a desire to place their recreation activities upon a more personal level, to be independent of facilities aimed at the average requirement, and to insure recreation according to their own particular patterns and designs. For these, a personal vacation lodge becomes the answer, secluded from the throng and sacred to their own purposes. Perhaps it is built on a special spot selected and purchased because of its lovely overlook; perhaps they are sensible of advantage accruing from utilization of a site leased from some governmental agency, upon which they may erect the facilities desired for their own purposes.

The Forest Service, in addition to its primary function of management of forest resources, or perhaps as a part of it, affords opportunity for recreation in the National Forests, particularly through the provision of facilities for picnicking and camping. The Forest Service is also able to lease to private citizens for personal use desirable sites in the National Forests which are suitable for vacation camps or cottages. A similar procedure is indicated in paragraph 9 of Circular Letter No. 3579 as available to the Corps of Engineers. It is understood that present land use policies within the Corps of Engineers favor outright sale of surplus lands over utilization under permit procedure.

RECREATIONAL PREFERENCES

Bodies of water are essential attributes to recreation in rural surroundings, especially in those sections of the United States where natural lakes are not prevalent. The number of those who participate in water-connected activities is hardly an index of the quantity of the various facilities which should be provided, since park patrons are not able to do all the things which they like, for lack of facilities.

A truer picture of the recreational preferences of park visitors may be obtained from the results of a study conducted in 1938 by the National Park Service, during the course of which over 7,500 park patrons told of the things which they were interested in doing while on their vacations. Without going into detail, the eight most popular vacation activities and the percentage of visitors manifesting interest in each was as follows:

Swimming . . . 47%	Camping . . . 16%
Fishing . . . 41%	Hiking . . . 15%
Touring . . . 24%	Boating . . . 14%
Picnicking . . 19%	Hunting . . . 10%

That park administrators, within necessary limitations, have accurately appraised the desires of park patrons and provided for them is evidenced by the participation in park activities at 135 state parks and related areas during the same year. The nine pursuits which attracted most participants ranked in the following order:

(1) Swimming	(6) Camping
(2) History	(7) Fishing
(3) Picnicking	(8) Nature Study
(4) Hiking	(9) Rowing
(5) Playgrounds	

Of the eleven separate activities which appear in the two lists, swimming is far and away the most popular, although fishing will probably press it hard for priority in reservoirs, especially since the fisherman is little deterred by lack of facilities, if only the water and the fish are there.

Swimming requires clean, safe water, safe not only bacteriologically and chemically, but also in the arrangement of its depths. Fishing and boating are obviously dependent upon water; picnicking and camping are much enhanced thereby.

PREDICTION OF PARK DAY-USE

The "design-load" for which day-use facilities in a park should be developed may be defined as the number of persons who will be using that park at one time on an average summer Sunday afternoon. The week-day load will normally be less, and holiday crowds may be greater, but economic conditions dictate that the design should be based upon an average Sunday afternoon, the period when use is normally heaviest.

The "design-load" for a non-urban park is dependent upon several major factors. Significant among these are:

(a) The inherent attractiveness of the park or area.
(b) Its site in relation to population distribution.
(c) The economic level of the tributary population.
(d) Influence of areas of similar characteristics.

(a) Inherent attractiveness of an area is determined by such varying characteristics as scenic desirability, vegetative cover, adequacy of size, adequacy of development, functionalism of arrangement, quality of recreational water, climatic suitability, freedom from pests, and public relations. An area unusual in all characteristics may draw use as great as two or three times that of an average park, while an area poor in all respects may attract only a quarter or a third as many patrons as its average competitor.

(b) Relation to population distribution. On a nation-wide basis it is found that the proportion of the population of a community which will visit a given park varies inversely as the 1.70th power of the road distance which separates the home and the recreational objective. As a generality, most day-use of Eastern parks originates within 50 miles of the area, and all of it within 100 miles, unless there is a definite metropolis not far beyond the latter limit, in which case its bulk of population becomes significant.

Thus by considering each significant community with day-use range and its distance from the park there may be determined the expected visitation to the park from those communities, whether they be metropolitan in nature, cities of moderate size or unincorporated large settlements. Experience shows that strictly rural inhabitants, those whose homes are on farms or in the very small villages, do not make as much use of parks, proportionately, as their urban brethren. Although complete and adequate data are not available, rural use may be assumed, without too much error, to be approximately one-half as probable as use from urban communities.

(c) Economic level of tributary population. Starting with 1.70 as the average value of the power for the nation as a whole, there is considerable variation in the individual states, ranging from 1.90 for those of lowest economic level to 1.59 for those who are able to travel most.

Sufficient data is not available, at county or community level, to permit the application of minor refinements to state modifiers. For ordinary purposes, however, it seems reasonable to assume that the state-wide economic level will not be too much at variance with that of the particular communities from which recreational day-use will be drawn.

(d) Influence of areas of similar characteristics. The introduction of a new park does not greatly stimulate park visitation by citizens of any community unless the new park is nearer them than existing similar facilities. If it is not nearer them, about the same number of families will embark on Sunday afternoon jaunts to some park as before. Now, however, some will visit the new area at the expense of those parks which they have previously patronized.

Each community within day-use range of the proposed new area should be studied and its Sunday-afternoon contribution determined with respect, not only to the new area, but also to all park areas within day-use range of the community itself. In this determination cognizance should be taken of the inherent attractiveness of each park. The effective "draw" of the nearest park will usually be greatest, unless it is relatively unattractive.

For that particular community then, the total effective draw will probably be the uninfluenced one of the nearest park, whether that park be one already in operation or the one contemplated for development. This total effective draw from the community under study may then be pro-rated among all the park areas within range of it. For any particular park the total draw or visitation will be the summation of its compensated draw from each of the communities within range of it.

MANNER OF DEVELOPMENT AND OPERATION

Federal Agencies. The wisdom is recognized of the overall policy of the Corps of Engineers that recreational developments in conjunction with reservoirs should be installed and managed by State and local agencies most directly concerned. In most of the reservoirs considered by this Service, the recreational significance is not of such wide spread as to justify administration by a Federal agency such as the Corps of Engineers.

The activities of several Federal agencies will have affects upon recreational use of reservoirs under control of the Corps of Engineers. For instance, a program of soil conservation districts in the drainage area, under sponsorship of the Soil Conservation Service, may clear up the waters of the lake. A fish-stocking program by the Fish and Wildlife Service may add to the use made of the reservoir. Malaria control measures by the Public Health Service may render the reservoir safer and more attractive for recreational use. All these activities will foster recreation, but it is not normally the function of any of the agencies to administer recreational use.

The relation of the National Park Service is somewhat different from that of other Federal agencies. It is a province of the Service to administer areas which are of national significance. Few of the contemplated recreational developments in connection with reservoirs considered appear to have more than state-wide importance. The National Park Service is interested in seeing necessary provisions made for the recreational enjoyment of residents of the States affected; it is not in a position to undertake the task of installing or managing recreational facilities at the reservoirs. Its function in this case is rather that of a consultant to the Corps of Engineers in matters dealing with the provision of recreational opportunities.

State Agencies. There is a considerable variation, among the States in the organizational set-up for handling of conservation affairs. Frequently, but not always, matters concerned with state park, fish management, game management and other phases of conservation are entrusted to sections of an overall conservation agency. The National Park Service has long worked with such state agencies, particularly with those primarily charged with the development and operation of state parks. It will be happy to act as liaison member between such agencies and the appropriate offices of the Corps of Engineers whenever requested.

Community Agencies: Often times reservoirs are operated within easy reach of communities having permanent and well-functioning governmental agencies for forwarding the recreational interests of their

citizens. In such cases, particularly if the resources of the reservoir are not of state-wide significance, provision and operation of recreational facilities at the reservoir should be a local responsibility. The advisability is suggested of having local contacts made through State agencies with like functions.

Commercial agencies and private lessees. Private enterprise often seeks permission from the Corps of Engineers to set up shore-side establishments catering commercially to the needs and desires of fishermen. No objection is seen to such a procedure, providing such operations are kept under the control of the War Department by means of conditioned, revocable permits, are prosecuted in locations zoned for such use by the War Department, and are legally permissible under the Flood Control Act.

It is not necessary or advisable to solicit interest in commercial use, but master-planning should take it into account, setting aside general locations for it, and considering the form of necessary permit documents and procedures.

PLANNING FOR RECREATIONAL USE

Necessity for master planning. For every reservoir at which there is a demonstrated need for provision of recreational facilities, of whatever type, and which offers possibilities for installing them, a recreational master plan of some form should be prepared. This does not mean that each area merits the formulation of as complete and comprehensive a document as, for instance, the report which the National Park Service completed in 1943 for the Denison Dam and Reservoir Project in Texas and Oklahoma. It is conceivable that, in connection with a reservoir whose shores offer opportunity for badly-needed cottage sites and where no other form of development is required, the recreational master plan would be a simple statement, without drawing, to the effect that the shores of the reservoir should best be devoted to that purpose. This could be supplemented, at a later date, by survey plats defining the boundaries of individual leaseholds, in effect a subdivision plan.

Between these two extremes, there are many gradations. The point is that there should be determined, at the start, the best uses to which the lands surrounding the reservoirs should be put. These guiding programs should not be regarded as incapable of revision, from time to time, as changing circumstances or conditions may warrant. They should, however, constitute a manual through which developments may be made in a planned rather than a haphazard manner. Plans and specifications are as necessary to successful recreational programs as to the dams which make them possible.

Before a recreational master plan in even approximate detail can be prepared for any reservoir or reservoir site under the control of the Corps of Engineers, certain basic determinations should be made. They are as follows:

(a) Has the project as a whole been authorized or does it appear likely to be approved?

(b) Is there a demonstrated major need for recreational facilities in the vicinity of the reservoir?

(c) Does the area adjacent to the reservoir possess inherent characteristics which render it capable of being developed to fill this need?

(d) What is the reaction of State and local agencies concerned with recreation? Will they participate in development and operation of facilities, and to what extent?

Normal planning requirements. In view of the expressed preference of the Chief of Engineers that the development and management of public park areas be handled by State or local agencies, it is recommended that public access to reservoirs be maintained wherever highway connections and site conditions permit, for such informal activities as fishing, boat-launching, and picnicking, but that provision of more formal facilities, such as beaches, bathhouses, and pavilions be limited to sites in which State or local agencies agree to operate facilities in whose construction they have had concrete participation.

Ordinarily, recreational master planning activities for any reservoir should be modelled after the following general pattern:

(1) Contacts with State and local agencies to determine the extent of their participation.

(2) Field study of the project by master-planning personnel to peg down and become familiar with all sites suitable for the various types of recreational use.

(3) Preparation of a brief statement outlining proposed methods of furnishing and operating facilities, extent of cooperation by State and local agencies, etc.

(4) Preparation of necessary drawings allocating general space for each use-type and showing the general layouts proposed in as much detail as needed, but without the inclusion of detailed construction drawings.

Items listed under (3) and (4) above would constitute, when duly approved by the Office of the Chief of Engineers, the current status of the recreational master plan for the reservoir considered, subject to expansion by more detailed drawings and agreements as questions which influence the detailed planning become settled.

APPENDIX 3

APPRAISAL OF ARCHEOLOGICAL RESOURCES

AN APPRAISAL OF THE ARCHEOLOGICAL RESOURCES OF THE MORGANTOWN LOCKS, IN WEST VIRGINIA, AND THE CONEMAUGH AND CLARION EAST BRANCH RESERVOIRS, IN PENNSYLVANIA

February, 1951

Prepared by

RIVER BASIN SURVEYS

SMITHSONIAN INSTITUTION

AN APPRAISAL OF THE ARCHEOLOGICAL RESOURCES OF THE MORGANTOWN LOCKS, IN WEST VIRGINIA, AND THE CONEMAUGH AND CLARION EAST BRANCH RESERVOIRS, IN PENNSYLVANIA.

The following data are a combined survey report on three Corps of Engineers projects in West Virginia and western Pennsylvania examined for archeological remains by the River Basin Surveys, a unit of the Bureau of American Ethnology, Smithsonian Institution. This work was a part of the Inter-Agency Archeological Program and was carried on in cooperation with the National Park Service and the Corps of Engineers, Department of the Army. These projects, visited during the month of October, 1950, consist of the Morgantown Locks on the Monongahela River, at Morgantown, West Virginia, and the Conemaugh and East Branch Reservoirs in the Allegheny River drainage in Pennsylvania. Both the Allegheny and Monongahela Rivers are part of the Ohio River drainage system. The archeological survey was conducted by Ralph S. Solecki of the River Basin Surveys. He was aided in the work by William Mayer-Oakes of the Carnegie Museum, Pittsburgh, Pennsylvania, on October 10, 24, and 25.

* * * *

CONEMAUGH RIVER RESERVOIR

This project, a concrete dam being constructed for flood control, will inundate a section of the Conemaugh River along which there are some archeological sites. The dam, which is scheduled for completion by December, 1951, is situated near Tunnelton, Pennsylvania. The reservoir will lie in Indiana and Westmoreland counties, the boundary between them being the Conemaugh River. Full reservoir pool will be at 975 feet mean sea level, flooding 20.9 miles of the Conemaugh River and 11 miles of one of its larger branches, the Black Lick Creek. The country is fairly well wooded along the river banks, and there are several flat bottoms. The time intervals between October 7 to 11, and 23 to 25, were spent on an archeological reconnaissance of the reservoir area.

The Archeology

During the course of the survey, 8 sites were located. Five of them are within the full pool elevation of the reservoir. Of the latter, one (36 In 2) situated on the Edward Johnson farm near Blairsville, is recommended for further exploration and excavation. The site, comprising about ten acres, is on one of the larger terrace bottoms above the Conemaugh River, and is situated near an old fording place. An old Indian trail, the Venango trail, is supposed to have crossed the river at that point. Numerous evidences of aboriginal occupation, including one stone adz, 3 whole and 2 fragmentary triangular projectile points of chert, one fragmentary

notched projectile point of chert, and 70 pottery fragments were found on the surface of the site. In a series of small test excavations, evidence of undisturbed aboriginal occupation was found below the plow line to a depth of 18 inches from the surface. The excavations produced 26 pieces of pottery, several flint flakes, 1 piece of worked box turtle shell, and some cracked and broken animal bones. It is likely that deeper deposits of aboriginal refuse, including burials, occur there as Mr. Johnson claims that an Indian burial was unearthed on the site. Attesting further to the abundance of material to be recovered there is Mr. Johnson's personal collection of artifacts, numbering close to a thousand specimens. A preliminary study of the artifacts found during the survey and Mr. Johnson's collection indicate that the major occupation was in late prehistoric times. The culture represented has been termed the "Monongahela Woodland Culture" in western Pennsylvania. There are evidences of a minor occupation, possibly earlier than the Monongahela Woodland Culture, several hundred yards from the main concentration of archeological remains. The minor occupation seems to be related to a cultural complex characterized by side notched projectile points. The latter, as a general rule, seem to have been more common before the appearance of triangular projectile points in the northeastern United States.

* * * *

RECOMMENDATIONS

Only one site, 36 In 2, situated on the Johnson farm in the Conemaugh Reservoir is recommended for excavation. That site, the most important one found during the survey, seems also to be one of the most important along the Conemaugh River. Since archeological data from that part of western Pennsylvania are lacking in the records, the site should be excavated. Surface indications are that at least two months of excavation will be required. The evidence points to occupation by a late prehistoric group of Indians, provisionally called the Monongahela Woodland people. Furthermore traces of earlier occupation have been recovered in the same locale.

Site 36 In 2 is within 15 minutes walking distance of Blairsville, which has a large enough population for labor recruiting purposes. No long range transportation nor extra lodging expenses would be required. The Carnegie Museum, Pittsburgh, Pennsylvania, may well wish to cooperate in the project as that institution has been conducting a survey of the archeology of the Upper Ohio River Basin (Carnegie Museum and the Archeology of the Upper Ohio River Basin, James L. Swauger in The West Virginia Archeologist, Moundsville, W. Va., Oct. 1950, pp. 14-15.)

Cost of Salvage

On the basis of an excavation extending over a period of two months, it is estimated that the cost would be $6,458.00. Since the archeological work would be done under the direct supervision of the Washington office, certain savings would be effected. An archeologist-supervisor assigned to the project for a period of one half year could complete this particular task. The bulk of the cost of carrying out the excavation would be in wages.

The definition and breakdown of costs for an Excavation Unit at the Conemaugh Reservoir are as follows:

The Excavation Unit is an operational unit designed to provide labor, supervisory personnel, and equipment for the recovery of archeological materials in the field; for study of the materials and data recovered, and the preparation for publication of a technical report (for which the archeological supervisor will be responsible).

01	Personal services:	
	1 Archeologist-Supervisor for 1/2 year (GS-7)	$ 1913.00
	1 Field Assistant, 2 months at $250 per mo. . .	500.00
	10 Laborers, 40 days at $8.00 per day	3200.00
02	Travel and per diem	520.00
03	Transportation of things	50.00
05	Rents and utility services	50.00
07	Other contractual services	100.00
08	Supplies and materials	50.00
09	Equipment	75.00
	Total cost of Excavation Unit	$6,458.00

Survey and report by:

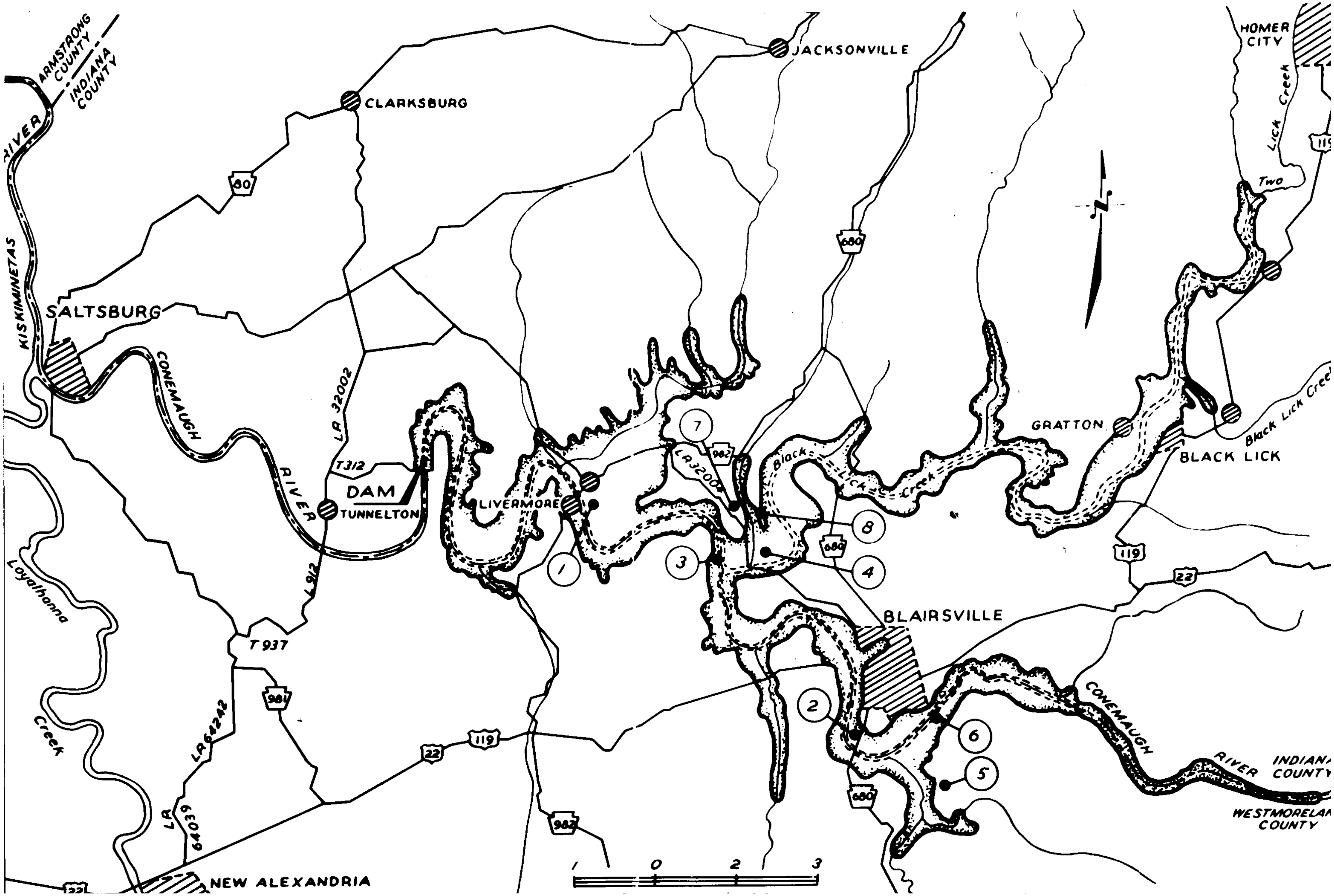
Ralph S. Solecki

Archeologist,
River Basin Surveys.

Approved for distribution by:

Frank H. H. Roberts, Jr.

Associate Director, Bureau of American Ethnology,
Director, River Basin Surveys.



JACKSONVILLE
CLARKSBURG
ARMSTRONG COUNTY
INDIANA COUNTY
RIVER
KISKIMINETAS
SALTSBURG
CONEMAUGH
RIVER
80
LR 32002
T312
DAM
TUNNELTON
LR 912
T 937
981
LR 64242
LR 64039
119
22
982
NEW ALEXANDRIA
Loyalhanna
Creek
LIVERMORE
LR 32004
982
680
Black Lick Creek
GRATTON
BLACK LICK
HOMER CITY
Two
Lick Creek
BLAIRSVILLE
CONEMAUGH
RIVER
INDIANA COUNTY
WESTMORELAND COUNTY
1 0 2 3

APPENDIX 4

CONSERVATION RECOMMENDATIONS

CONSERVATION RECOMMENDATIONS

CONEMAUGH RIVER RESERVOIR

Indiana County and Westmoreland County
Soil Conservation Districts
Pennsylvania

Compiled by
Soil Conservation Service
in cooperation with the
Corps of Engineers
Pittsburgh District

Prepared February 1952

/s/ Wm. S. Wetzel
William S. Wetzel
District Conservationist
Indiana, Pennsylvania

/s/ F. T. Bowne
Francis T. Bowne
District Conservationist
Greensburg, Pennsylvania

Approved March 1952

/s/ Rodney G. Dean
Rodney G. Dean, Secretary
Board of Directors
Indiana County Soil Conservation District

/s/ Mortie Gongaware
Mortie Gongaware, Chairman
Board of Directors
Westmoreland Co. Soil Conservation District

INTRODUCTION

The development of flood control reservoir areas for recreational purposes was authorized by Section 4 of the Flood Control Act approved 22 December 1944, as amended by the Flood Control Act approved 24 July 1946.

This authority is interpreted in Section 24, Part II, Chapter IV, Orders and Regulations, to include all land uses to which reservoir areas may be adapted, providing such uses are incidental to the primary purpose of the reservoir. Uses to be considered include, but are not limited to, "farming and grazing, forestry, recreation and conservation of fish and wildlife". Full consideration should be given to soil conservation and "areas suitable for farming purposes will continue to be used for that purpose * * * * except in special cases in which other uses would result in greater public benefit".

On 24 July 1950 a conference on procedures for conservation planning was held in the Pittsburgh District Office with Mr. Alvin C. Watson, Asst. Regional Director, Region I, U. S. Soil Conservation Service, Upper Darby, Pennsylvania, and Mr. Francis T. Bowne, Conservationist, Westmoreland County Soil Conservation District, Washington, Pennsylvania, and representatives of the Corps of Engineers participating. It was indicated by Mr. Watson that the proper procedure for having conservation plans made was to contact the Board of Directors of the Soil Conservation District in which the land was located and request assistance.

This information was verified by multiletter from Office, Chief of Engineers, dated 16 August 1950, subject: "Leasing of Lands in Reservoir Areas for Agricultural or Grazing Purposes". Specific information is given in subparagraph 3 c.

The District Board of Directors of Indiana County and Westmoreland County Soil Conservation Districts were requested by letter dated 6 November 1950 to develop a conservation plan for the Conemaugh River Reservoir area. The request for assistance was approved by the Indiana County District on 14 November 1950 and by the Westmoreland County District on 12 December 1950.

The State Conservationist, Mr. Ivan McKeever, Harrisburg, Pa., held a conference in the Pittsburgh District Office on 20 February 1951 for the purpose of organizing a development program of the conservation plans for Conemaugh River, Loyalhanna, and Mahoning Reservoirs. Mr. William S. Wetzel was made responsible for the Conemaugh River and Mahoning Reservoirs and Mr. Francis T. Bowne was assigned Loyalhanna Reservoir.

RECOMMENDATIONS

The recommendations which follow are based on field reconnaissance, soil analysis studies, the locations of lands in relation to the minimum pool and frequency of flooding, and good conservation practices of simple character.

General recommendations for the reservoir area are shown on Plates 2, 3, 4, 5 and 6 of the Master Land Use Plan, entitled "General Land Use".

Conservation practices recommended for tracts leased for agricultural purposes are given below as individual items. It is suggested they be issued as a supplement of the agricultural lease form (Eng 1366, 1 May 51) for use at the subject reservoir. Items 1 to 5, inclusive, apply to all agricultural leases. Items 6, 7 or 8, whichever is specified, indicate the most intensive rotation recommended for each tract. However, 7 or 8 may be substituted for 6, or 8 may replace 7 at the lessees option.

1. The Basic Objective of the Soil Conservation Service is: "The use of each acre of agricultural land within its capabilities and the treatment of each acre of agricultural land in accordance with its needs for protection and improvement". This supplement is designed to provide for the carrying out of this objective and thus maintain the fertility of the various tracts of land in order that they may continue as productive assets of the State and Nation.

2. The Board of Directors of the Indiana County and Westmoreland County Soil Conservation Districts urge the lessees to become cooperators with their respective Soil Conservation Districts for assistance and guidance in complying with the conservation practices specified in the lease. Address requests to the Indiana County Soil Conservation District, Room 10, Farmers Bank Building, Indiana, Pa. - Telephone INdiana 5-6112; or Westmoreland County Soil Conservation District, Court House Annex, Greensburg, Pa. - Telephone Greensburg 5539.

3. Due to probable frequency of flooding for those areas lying below the approximate elevation of 940 feet, it is recommended that existing crop land, pasture or idle land located in this zone, and which is readily suitable for such continued use, be devoted to wildlife purposes.

4. All Government-owned land in the Conemaugh Reservoir area now in forest cover should remain as such and shall as far as possible be protected from fire and grazing. As various tracts reach the stage of maturity that merchantable timber become available in quantity to justify a harvest cut; the Soil Conservation District will on request provide assistance as far as facilities are available to:

a. Cruise to determine quantity of merchantable material.

b. Select and mark trees for sale.

5. Lime and fertilizer shall be applied in sufficient quantities to insure establishment and maintenance of grass and legume stands. The Production and Marketing Administration Offices for Indiana and Westmoreland Counties will allocate lime and fertilizer to the lessees of any of these tracts on the same basis as if the land were owned by the lessee.

6. One year row crop, small grain, hay.

7. One year row crop, small grain, hay, hay.

8. One year small grain, and hay three or more years.

9. Seed winter cover crop of 20# rye-grass in last cultivation of row crop on land that is not to be seeded to winter grain.

10. Maintain natural draws in sod at all times.

11. All seeding and cultivating operations shall be on the contour.

12. Contour strip cropping shall be used on areas having a slope of four percent or greater.

13. Graded strip cropping shall be used on imperfectly drained areas where removal of excess surface water is desirable.

14. Flat land requiring the removal of surface water should have a system of open drains installed.

15. Diversions with adequate outlets should be installed on long slopes.

16. Mow pastures twice a year (June and August).

TABLE 1

TRACTS CONSIDERED SUITABLE FOR LEASING AND RECOMMENDED CONSERVATION PRACTICES FOR EACH TRACT

Tract number	Total acreage in tract	Estimated usable acreage above Elev. 940	Conservation recommendations (See list of items on Pages 2 and 3 of this report)
A-19A	132	30	7-9-10-11
A-22	70	30	8-10-11-16
C-201	156	-	3-7-9-10-12-16
C-202	5)		
C-203	10)	250	6-9-10-13-14-16
C-204	13)		
C-205	1)		
C-208A	586)		
C-208B	32	-	3-6-9
C-207A	125	30	6-9-10-13-14-16
C-207B	20	-	3-6-9
C-210B	91	30	7-9-10-12-15-16
C-211A, B, C	103	45	6-9-10-11-12-16
C-227	133	60	7-9-10-12-16
C-231	92	10	3-7-9-10-12-16
C-232	133	40	3-7-9-10-12-16
C-235B	30	15	16
C-236	4	4	16
D-302	54	3	16
D-306	88	8	3-7-9-10-12-16
D-313	390	60	7-9-10-12-16
E-403	20	6	6-9-16
E-406	88	40	7-9-10-13-16
E-418	37	15	3-7-9-10-12-16
E-420	36	35	7-9-10-11-16
E-419	100)	30	3-7-9-10-11-16
E-421	153)		
E-423	47	44	7-9-10-11-16
E-426	67	42	3-7-9-10-12-16
E-431	29	15	7-9-10-12-16
F-510	35	20	7-9-10-12-16
F-513	102	45	6-7-9-10-11-12-16
F-515	73	35	7-9-10-12-16
F-517	50	15	6-9-10-11-16
F-520	26	20	7-9-10-14-16
F-522	22	10	7-9-10-13-14-16
F-526	66	35	7-9-10-11-16
F-540	13	10	7-9-10-12-16
H-708A, B	27	16	6-9-10-11-16
H-709	43	35	6-9-10-11-16
H-710	26	6	6-9-10-11-16
J-803	42	5	7-9-10-12-16
J-822	69	15	6-9-10-11-12-16
P-1327	70	36	6-9-10-11-16
R-5	20	10	7-9-10-11-16

APPENDIX 5

LETTER FROM PENNSYLVANIA DEPARTMENT OF FORESTS AND WATERS

Commonwealth of Pennsylvania
Department of Forests & Waters
Harrisburg

5 December 1951
In reply refer to
DS2

Colonel Conrad P. Hardy
Corps of Engineers, U. S. Army
Office of the District Engineer
925 New Federal Building
Pittsburgh 19, Pennsylvania

My dear Colonel Hardy:

Mr. Walter L. Wirth of the Bureau of Parks has inspected the Conemaugh River Reservoir Area in company with Mr. Mueller of your office and has submitted a report to me.

I have considered that report together with the enclosures submitted with your letter of 20 September and must conclude regretfully that this Department is not interested in the development of the Conemaugh Reservoir as a State Park at the present time.

There are several reasons for this conclusion. First, and foremost, there are no funds available now nor will there be this biennium, for the development of any additional State Parks. My Department will be hard put to it to maintain existing ones. Secondly, the pollution of the water at the present time precludes the use of the area for swimming or fishing. Admittedly, this may change in the future. For the present, however, it would militate seriously against the full use of the area for recreation. Thirdly, the southwestern part of the State is reasonably well provided with recreational areas in Raccoon Creek, Crooked Creek and Laurel Hill State Park. Should it be possible for us to develop any new Parks our efforts must be directed toward the southeastern part of the State where there is a crying need for recreational parks for the metropolitan industrial areas of Philadelphia and the surrounding counties.

Sincerely

/s/ M. F. DRAEMEL

APPENDIX 6

SPECIAL REGULATIONS

APPENDIX 6

SPECIAL REGULATIONS GOVERNING PUBLIC USE OF
CONEMAUGH RIVER RESERVOIR AREA

1. Restrictions on Public Use.-

a. Boating and other water sports will not be permitted on or in that part of the reservoir water area lying immediately above the dam and extending to the trash boom or other marked boundary.

b. No hunting or trapping will be permitted on and in the vicinity of the Reservoir Manager's Dwelling Area, the Conemaugh Picnic Area, the Bow Ridge Recreation Area, and any other particular area designated by the District Engineer.

2. Boat Equipment.- Every boat when in use shall be provided with an efficient life preserver for each occupant. No boat shall be operated at night without display of one white light visible around the horizon. Motorboats shall carry lights prescribed in U. S. Coast Guard regulations for vessels of like type and size.

3. Motorboat Speed.- No motor-driven boat shall be operated at a speed greater than 8 miles per hour when in a designated harbor area, or within 100 feet of shore, or of any dock, mooring space, or occupied boat.

4. Responsibility.- The use of the reservoir area shall be at the risk of the users. The United States shall not be liable for damages of any kind resulting from the use of the reservoir area for, or in connection with, recreational or other public purpose, nor from the operation of the reservoir for flood impoundments and releases.

5. Inquiries.- Questions concerning the use of the lands or water of the reservoir area, or concerning the flood control dam and reservoir, will be answered by the Reservoir Manager, or, if written, they should be addressed to the District Engineer, Pittsburgh District, Corps of Engineers, U. S. Army, 925 New Federal Building, Pittsburgh 19, Pa.