

Section 905(b) of the Water Resources Development Act of 1986 Analysis
Gathright Dam and Lake Moomaw, Virginia
Low Flow Augmentation

1. STUDY AUTHORITY:

This study was authorized by Section 216 of the River and Harbor and Flood Control Act of 1970 (Public Law 91-611), dated 31 December 1970, which states:

“The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest.”

2. STUDY PURPOSE:

The purpose of this Reconnaissance Study is to determine whether further planning for modifying Gathright Dam and/or Lake Moomaw, an existing Federal multipurpose project, or their operation, for low flow augmentation to improve and restore environmental resources downstream along the Jackson and James Rivers should proceed under Section 216 of the River and Harbor and Flood Control Act of 1970.

3. LOCATION OF PROJECT/CONGRESSIONAL DISTRICT:

The study area for low flow augmentation is the area along the Jackson and James Rivers from Lake Moomaw to the Fall Line at Richmond, Virginia, a distance of about 280 miles, as shown on Plate 1. The study area is located in Virginia Congressional District VA-06, VA-05, VA-07, and VA-09.

4. DISCUSSION OF PRIOR STUDIES, REPORTS, AND EXISTING WATER PROJECTS:

a. Prior Studies and Reports: The following table summarizes pertinent reports and design memoranda (DM) that have been conducted in connection with the Gathright Dam and Lake Moomaw project.

Table 1. PRIOR REPORTS

Description	Date
HD 207/80/1: Survey Report Recommending Authorization of Gathright – Falling Spring Project 1953	
DM 1: Hydrology (Preliminary)	Mar 1953
DM 1A: Hydrology	Jun 1965
DM 1A: Hydrology (Supplement)	May 1967
DM 2: Site Selection and Alternative Projects (Preliminary)	Aug 1953
DM 3: Review of Deferred for Restudy Classification	Mar 1964
DM 4: Project Selection	Jul 1965
DM 5: Preliminary Master Plan	Jan 1966
DM 6: Real Estate (Revised)	Aug 1969
DM 6A: Real Estate (Supplement)	Feb 1967
DM 6B: Real Estate (Supplement)	Mar 1967
DM 6C: Real Estate (Supplement)	May 1968
DM 6D: Real Estate (Supplement)	Aug 1969
DM 6E: Real Estate (Supplement)	Apr 1973
DM 7: General Design	Apr 1967
DM 8: Outlet Works & Administration Building	Mar 1968
DM 9: Concrete Materials	Aug 1966
DM 10: Access Road	Oct 1968
DM 11: Geology and Foundation	Jul 1969
DM 11: Geology and Foundation (Supplement)	Feb 1976
DM 12: Embankment and Spillway	Sep 1969
DM 12: Embankment and Spillway (Revision)	Aug 1974
DM 13: Shop, Maintenance, and Residential Area	Jan 1971
DM 14: Master Plan	Jun 1970
DM 15A: Relocation - Utilities	Feb 1971
DM 15B: Relocation - Roads	Sep 1971
DM 15B: Relocation - Roads (Revision)	Feb 1978
DM 15C: Relocation - Cemeteries	Feb 1974
DM 16: Clearing	Sep 1970
DM 17: Instrumentation	Nov 1970
DM 18: Sedimentation Ranges and Investigations	May 1970
DM 19: Hydrologic Data Collection (Preliminary)	May 1971
DM 19: Hydrologic Data Collection	Jul 1974
Report on Alternative Plans of Improvement	Aug 1965
Intake Tower Operation and Maintenance Manual	Jan 1979
Gathright Dam and Lake Moomaw Final Regulation Manual	Aug 1984
Section 216 Study Reconnaissance Report Gathright Dam and Lake Moomaw, Virginia Hydropower and Water Supply	Mar 1987
Dam Safety Plan, Gathright Dam and Lake Moomaw Project	Mar 2001
Section 216 Study Initial Appraisal Gathright Dam and Lake Moomaw, Virginia Low Flow Augmentation	Jun 2003
Review Report on James River, Virginia	Jan 1962
James River Basin Water Resources Study	Dec 1975
National Hydroelectric Power Resources Study (23 Vols)	1981 - 1983
Water Supply Study, Hampton Roads, Virginia	Dec 1984
Reconnaissance Report Upper James River Basin, Virginia and West Virginia, Flood Control Study	Apr 1992
Fish and Wildlife Restoration Reconnaissance Report, James River Basin, Virginia	Oct 1993
James River Drought Preparedness Study	Jul 1994
1997 Annual Report for the James River Basin Association	Aug 1997
1998 Annual Report for the James River Basin Association	Jun 1998

b. Existing Water Projects: In addition to the Gathright Dam and Lake Moomaw project, there are three Federally-authorized projects below the dam along the James River. These include a local flood protection project in Scottsville, Virginia; a local flood protection project in Richmond; and a flood protection project at the Richmond Filtration Plant. Plate 2 shows the location of the three projects in relation to each other. In addition, the Norfolk District is assisting the City of Richmond and City of Lynchburg with their Combined Sewer Overflow (CSO) Alleviation. Below is a summary of these Congressionally-authorized and contracted projects.

(1) Gathright Dam and Lake Moomaw: As shown on Plate 3, the Gathright Dam and Lake Moomaw project is located in Virginia on the Jackson River, 43.4 river miles upstream of its confluence with the Cowpasture River, which, at that point, forms the upper James River. The City of Covington is 19 miles downstream of the dam. The dam and a portion of the reservoir are in Alleghany County, with most of the reservoir in Bath County, as shown on Plate 3.

This multipurpose project, authorized by the Flood Control Act of 1946, is regulated to reduce flood damages at downstream locations, to increase low flows for the improvement of downstream water quality, and to provide the opportunity for water-based recreation. An additional purpose of regulation, although not a Congressionally-authorized purpose, is the creation of a habitat downstream suitable for maintaining a trout fishery. The project became fully operationally in April 1982, when filling of the reservoir was complete. Plate 4 is a schematic diagram showing storage allocation for flood control and low flow augmentation, including flood pool surcharge and inactive storage.

The existing real estate rights for the Gathright Dam and Lake Moomaw project were acquired in the late 1960's and 1970's. The majority of the lands for this project were acquired based on an acquisition of fee interests to an elevation of 1,667.5 feet (National Geodetic Vertical Datum [NGVD]; unless otherwise indicated all elevations in this report will be in NGVD). This guidance was based on the elevation of the ungated spillway. In the latter stages of acquisition, a variance to this guidance was granted, and several tracts were acquired in fee to elevation 1,592 feet, with flowage easements for the areas above the elevation to a maximum of 1,667.5 feet. This acquisition line was based on a maximum conservation pool of 1,582 feet. Subsequent to this acquisition by the Corps of Engineers, the majority of project lands were transferred to the U.S. Forest Service, in accordance with an interagency agreement dated 4 June 1981, for operation of the recreational aspects of this project.

Gathright Dam is a rolled, rockfill embankment about 1,172 feet in length, with a maximum height of 257 feet and a top width and elevation of 32 feet and 1,684.5 feet, respectively. The outlet works consist of a 1,075-foot-long tunnel with an inside diameter of 17.5 feet that discharges into a stilling basin 60 feet wide and 144 feet long. A 272-foot-high intake tower is located at the upstream end of the tunnel.

The intake tower has two main sluice passages for releasing water from storage after a flood. Each passage is 8 feet wide and 17.5 feet high with flow in each controlled by hydraulically-operated slide gates in tandem. The service sluice gates (downstream) can be

operated either locally from the cylinder room at elevation 1,467.0 or remotely from the control room at elevation 1,658.71. The emergency sluice gates (upstream) can only be operated locally.

The intake tower has 10 water quality gates located at 9 levels that allow mixing of water from different levels of the lake. The gates are 5 feet high and 3 feet wide. They can be operated either from the control panels adjacent to the hydraulic pump units in the room at elevation 1,615.0 or from the portable pendant-type selector switches stored in the same room.

The two vertical wet wells converge into a common vertical passage that then curves downstream into a water quality control outlet between the two sluice gate passages. This outlet is controlled by 2 hydraulically-operated vertical gates in tandem, each 3 feet wide and 5.5 feet high. Both the downstream service gate and the upstream emergency gate can be operated either locally from the cylinder room at elevation 1,467.0 or remotely from the control room at elevation 1,658.71. An ungated emergency spillway consisting of a chute about 2,450 feet long with a bottom width and elevation of 100 feet and 1,667.5 feet, respectively, is located approximately 2 miles south of the embankment.

Public access facilities are operated by the U.S. Forest Service and consist of public recreation areas with swimming, picnicking, and camping facilities; boat launching ramps; and scenic overlooks. All facilities are based upon a maximum conservation pool at elevation 1,582 and the minimum pool at elevation 1,554. Whenever possible, elevation 1,582 is maintained, but it must be recognized that the operation of the Gathright multiple-purpose project requires significant drawdown of the conservation pool on an almost annual basis.

(2) Scottsville: The Town of Scottsville is located on the north bank of the James River, approximately 198 miles below Gathright Dam and 25 miles south of Charlottesville. A local flood protection project, authorized under Section 205 of the 1948 Flood Control Act, was constructed in 1989 to protect the downtown area. The project consists of a combination of earth levee, floodwall, and pump station. The Town encompasses 130 acres and has a population of less than 600. The Town includes small commercial establishments and dwellings, including many of historical value. The flood protection project provides protection up to the 100-year flood event.

(3) Richmond Filtration Plant: A project to protect the water filtration plant of the City of Richmond was authorized by the Water Resources Development Act (WRDA) of 1976, as amended. The project protects the plant from a design flood having a recurrence of 360 years. Although preconstruction planning was completed in 1981, and plans and specifications were completed in 1982, construction of the project was not initiated until 1995 and completed in 1998.

(4) Richmond Local Flood Protection Project: The City of Richmond is located on the James River approximately 282 miles below Gathright Dam. A major flood control project to protect the City of Richmond was authorized by the WRDA of 1976 and 1986, as amended. The project consists of a system of floodwalls and levees on both sides of the river in the downtown area that would protect the City against a 280-year flood. Construction of the project was initiated in 1988 and completed in 1994.

(5) Combined Sewer Overflow Alleviation, Lynchburg: The Lynchburg CSO project is located in the western portion of the City of Lynchburg along the James River. The City of Lynchburg is under special compliance order by the Virginia Department of Environmental Quality (VDEQ) to implement a CSO control program in order to comply with the Clean Water Act. The project consists of the study and design for the replacement of approximately 39,000 feet of the James River CSO Interceptor and other CSO interceptors and outfalls. Fiscal Year 2003 funds were used to continue Preliminary Engineering and Design activities, and Fiscal Year 2004 funds were used to continue the activities.

(6) Combined Sewer Overflow Alleviation, Richmond: The Richmond CSO project is located in the City of Richmond along the James River. The City of Richmond is under special compliance order by the VDEQ to implement a CSO control program in order to comply with the Clean Water Act. The project consists of studies and design to support the reevaluation of the City of Richmond's CSO Long-Term Control Plan (LTCP). Work will include reliability and interface planning for CSO and Dry Weather Flow facilities and the Wastewater Treatment Plant and Satellite locations. Also included will be collection and laboratory analysis of river and CSO samples required as part of the CSO LTCP reevaluation study.

5. PLAN FORMULATION:

a. Identified Problems: As previously discussed, one of the Congressionally-authorized purposes of Gathright Dam and Lake Moomaw was to increase low flows for the improvement of downstream water quality. Since Gathright Dam and Lake Moomaw began normal operations in April 1982, the project has provided storage in the reservoir that has beneficially affected water quality throughout about 43 miles of the Jackson River and the entire 340-mile length of the James River. These water quality benefits decrease with progression downstream, as reservoir releases make up a smaller percentage of the total stream flow.

Although the Gathright Dam and Lake Moomaw project has provided low flow augmentation for the improvement of downstream water quality, urbanization, industrial activity, and agriculture have continued to stress the environmental resources of the Jackson River and upper James River from the dam to Richmond. VDEQ has indicated that there are impairments to water quality due to the presence of high levels of fecal coliform bacteria, arsenic, nutrient enrichment, and low dissolved oxygen, as well as potential human health fish consumption issues due to exposure to polychlorinated biphenyls.

According to VDEQ, sources of pollutants found downstream from the Gathright Dam are in the more urban areas located on the Jackson River in the vicinity of Covington, the James River in the vicinity of Lynchburg, and the James River at Richmond. Relatively small amounts of the total point source waste load above Richmond are from the municipalities; the largest loads are from scattered but large industries. Non-point source pollutant contributions stem largely from urban and agricultural land use activities. Notably, VDEQ is required to develop Total Maximum Daily Load (TMDL) studies to address three impairments occurring within a

25.4-mile segment from Covington to the Jackson River's confluence with the Cowpasture River. Development of these TMDL's to address bacteria and biological impairments, as well as low dissolved oxygen impairment, will be directly affected by the amount of water released from Gathright Dam. TMDL's that may be developed further downstream on the James River will not be affected to the extent as those on the Jackson River due to the effect of distance.

There are numerous withdrawers and dischargers into the Jackson and James Rivers within the study area. Major dischargers, which by VDEQ definition have an over 500,000-gallon-per-day capacity, include:

- Buena Vista Sewage Treatment Plant
- Clifton Forge Sewage Treatment Plant
- Covington Sewage Treatment Plant
- Low Moor Sewage Treatment Plant
- Lower Jackson River Sewage Treatment Plant
- Lexington-Rockbridge Water Quality Control Facility
- Hot Springs Regional Sewage Treatment Plant
- MeadWestvaco
- Georgia Pacific
- Lees Carpets
- Amherst Town Sewage Treatment Plant
- BWX Technologies, Inc.
- Greif Inc., Riverville
- Lake Monticello Sewage Treatment Plant
- Lynchburg City Sewage Treatment Plant
- Moore's Creek Regional Sewage Treatment Plant
- Powhatan Correctional Center Sewage Treatment Plant

In addition to these major dischargers, there are an additional 40 permitted dischargers between 40,000 gallons per day and 500,000 gallons per day in the study area. There are also major withdrawers on the Jackson and James Rivers that must be accounted for in any analysis. Some examples include the water supply facilities in Lynchburg, Henrico County, Richmond, Nelson County, Chesterfield County, and Bath County.

A review was conducted to determine whether there were any additional permitted withdrawals or discharges into the Jackson River since the Initial Appraisal was completed in June 2003. Coordination with the Norfolk District Regulatory Office concluded that there were no new permitted dischargers or withdrawers on the river since that time.

Specific problems, needs, and opportunities that have been recently articulated by both the VDEQ (draft 2004 303[d] Impaired Waters Listing) and the Virginia Department of Game and Inland Fisheries (VDGIF) include the following (river reach mileages below are from the National Hydrography Dataset):

(1) (VDEQ) Benthic Impairments (Jackson River 24.21 miles and James River 20.35 miles): Associated with organic and nutrient enrichment and exacerbated during certain

regulated low flow months, especially September, October, and November. A combination of higher flows and pulsed flows during certain periods may improve the situation. A larger conservation pool in Lake Moomaw may help provide the water necessary.

(2) (VDEQ) Low Dissolved Oxygen Concentrations (Jackson River 11.21 miles): Associated with organic and nutrient enrichment and exacerbated during certain regulated low flow months, especially September, October, and November. Large diurnal fluctuations are apparent. A combination of higher flows and pulsed flows during certain periods may improve the situation. A larger conservation pool in Lake Moomaw may help provide the water necessary.

(3) (VDEQ) Nutrients (Jackson River 24.21 miles and James River 20.35 miles): Elevated levels of phosphorous promote algae blooms and other aquatic organism growth that contribute to the observed diurnal swings of oxygen. A combination of higher flows and pulsed flows during certain periods may improve the situation. A larger conservation pool in Lake Moomaw may help provide the water necessary.

(4) (VDGIF) Cold water fisheries, including the cold water lake fishery and the tailwater trout fishery below the dam and above Covington, are good and should be preserved.

(5) (VDGIF) Warm water fisheries, including the warm water lake fishery and the warm water fishery below Covington, would be enhanced as water quality improved.

(6) (VDGIF) Recreational boating for both fishing and pleasure on Lake Moomaw is good and must be preserved.

The Commonwealth of Virginia, acting through the Secretary of Natural Resources, recognizes the continuing problems with water quality along the Jackson and James Rivers and has requested the Corps of Engineers to evaluate the possibility of adjusting or increasing releases at Gathright Dam for improving and restoring environmental resources downstream.

Proposed activities for low flow augmentation under Section 216 will be consistent with the Commonwealth's *Draft Chesapeake Bay Nutrient and Sediment Reduction Tributary Strategy for the James River, Lynnhaven and Poquoson Coastal Basins* in terms of point source sediment and nutrient reduction goals. According to the draft strategy, the new nitrogen allocation for the James River is 26.4 million pounds per year, representing a 29 percent reduction from the 2002 load of 37.26 million pounds. Similarly, the new allocation for phosphorus is 3.41 million pounds, representing a 43 percent decrease from the 2002 load of 5.95 million pounds. The sediment allocation is 930,000 tons per year, representing a 21 percent reduction from the 2002 load of 1.17 million tons per year. The strategy is viewed as an implementation process that connects and incorporates local water quality initiatives, such as ongoing local watershed planning, which address the need for and location of individual Best Management Practices. Mandated TMDL plans are also part of the James River Tributary Strategy in that these plans deal with impaired stream segments that are in violation of water quality standards for bacteria or dissolved oxygen. Although TMDL's do not address nutrient or sediment impairments, the implementation plans for upstream TMDL's will also have the added benefit of lessening nutrient and sediment loads. Therefore, all proposed activities will also be in

concert with TMDL's developed for specific impaired reaches of the Jackson River and James River. Coordination will occur throughout the study with project delivery team members from the VDEQ and the Virginia Department of Conservation and Recreation to ensure that all proposed activities to augment flows in the Jackson River will be supported by the Commonwealth as being in agreement with state initiatives.

b. Alternative Plans: During the Initial Appraisal process, six alternatives were identified to represent some of the alternative plans that will be considered in the detailed feasibility plan. At the reconnaissance level of investigations, all six alternatives represent viable plans that warrant further investigation. These six alternatives are identified below.

(1) Modify the existing storage allocation to allow more storage for low flow augmentation.

(2) Evaluate increasing pool elevation of reservoir to allow for increased storage for low flow augmentation.

(3) Modify existing low flow augmentation release procedures.

(4) Modify low flow augmentation release requirements.

(5) Combination of plans.

(6) No Action Plan – Continue operation of Gathright Dam as currently authorized.

c. Preliminary Evaluation of Alternatives. A Reconnaissance Phase level evaluation of alternatives was performed and is outlined below.

(1) Modify the existing storage allocation to allow more storage for low flow augmentation. This proposed plan will achieve environmental benefits associated with low flow augmentation, including benefits derived from improving water quality and habitat for living resources. The Feasibility Study will determine impacts on the affected allocation as well as on target TMDL's.

(2) Evaluate increasing pool elevation of reservoir to allow for increased storage for low flow augmentation. This proposal will achieve benefits associated with low flow augmentation. However, impacts to recreational resources, cultural resources, flood control, and dam safety associated with this proposal will have to be considered. More water may be available under this scenario than in other proposals.

(3) Modify existing low flow augmentation release procedures. This proposal will achieve benefits associated with low flow augmentation, as described in Plan 1, above.

(4) Modify low flow augmentation release requirements. This proposal will achieve benefits associated with low flow augmentation, as described in Plan 1, above.

(5) Combination of plans. This proposal will involve evaluating all proposals

and maximizing environmental benefits through a combination of management and/or structural measures.

(6) No Action Plan. This proposal will not achieve additional environmental benefits associated with low flow augmentation. However, natural increases in rainfall cycles may improve water quality on temporary basis.

All proposed alternatives, with the exception of the no action alternative, will provide opportunities for releasing more water to the Jackson River under low flow conditions. As alternatives are being evaluated for environmental benefits, consideration during Feasibility level efforts will also be given to the timing/pulsing of flows to mimic a natural riverine system, in order to maximize benefits to living resources. In addition, any recommended alternatives will not have a negative effect on water withdrawers on the James and Jackson Rivers and also will not negatively affect the study area during periods of drought conditions.

Alternatives in an ecosystem restoration project should avoid impacts that require mitigation. Specifically, ER 1105-2-100, Appendix E, para. E-30 (d) states: "...Ecosystem restoration projects should be designed to avoid the need for fish and wildlife mitigation." However, should a proposed alternative provide an acceptable level of benefits for a specified amount of wetland impacts that require mitigation, a number of wetlands banks exist and are being developed in the Jackson and James Rivers watersheds. Some banks currently available include the James River Mitigation Landbank, Chickahominy Environmental Bank, Virginia Habitats II Environmental Bank, New Kent Wetland Mitigation Bank, Byrd Creek Wetland Mitigation Bank, and the Willis River Mitigation Bank, to name a few. If wetlands mitigation is required due to any proposed alternative, these options will be reviewed in greater detail.

6. FEDERAL INTEREST:

Environmental restoration and protection are Federally-high priority project purposes and are the primary outputs of the alternative plans to be evaluated. Therefore, there is a Federal interest in pursuing this study into the Feasibility Phase. Based on preliminary analysis and comparisons with other projects in the Norfolk District, there is high probability that one or more alternative plans will be feasible from environmental, economic, and engineering perspectives. The proposed studies will be consistent with Federal and Army law, regulation, and policy.

7. PRELIMINARY FINANCIAL ANALYSIS:

The Commonwealth of Virginia has been identified as a local sponsor for this study. Recent coordination with the Commonwealth indicates continued interest in pursuing this study and their desire and intent to participate in further study. The Commonwealth has the financial ability to cost share in this study and to also cost share in project construction. The sponsor is aware that it will be responsible for 50 percent of the cost for the Feasibility Phase, 35 percent of initial construction, and 100 percent of allocated incremental costs associated with environmental restoration for future operation, maintenance, repair, rehabilitation, and replacement of

completed projects. The Commonwealth of Virginia has cost shared with the Norfolk District in the past, and it is expected that the Commonwealth will continue to do so.

Attachment 1 is a letter of intent from the sponsor, which is based on current cost sharing of 50 percent Federal and 50 percent non-Federal for feasibility, 65 percent Federal and 35 percent non-Federal for construction, and 100 percent non-Federal for future incremental operation and maintenance costs. The sponsor is aware of and understands that these percentages could change during the development of this project.

8. SUMMARY OF FEASIBILITY STUDY ASSUMPTIONS:

All assumptions used for formulation, evaluation, coordination, and reporting procedures will be consistent with those described in ER 1105-2-100, ER 200-2-2, and related planning guidance. There are no anticipated deviations from normal Feasibility Phase procedures.

9. FEASIBILITY PHASE MILESTONES:

The Reconnaissance Phase is scheduled for completion in January 2005, upon execution of the Feasibility Cost-Sharing Agreement (FCSA) with the sponsor and receipt of the non-Federal share of funds required. The Feasibility Phase is expected to take approximately 3 years, provided budgetary funding is received as scheduled in the Project Management Plan (PMP). Reconnaissance and Feasibility Phase milestones are as follows:

Reconnaissance Phase Milestones

Initiate Recon Phase	Jan 2004
Submit 905(b) to North Atlantic Division (NAD)	Sep 2004
NAD Approves Recon Report	Oct 2004
Draft PMP to Sponsor for Review	Nov 2004
Final PMP and FCSA to Sponsor	Dec 2004
District & Sponsor Execute FCSA (Completion of Recon. Phase)	Jan 2005

Feasibility Phase Milestones

Initiate Feasibility Phase	Jan 2005
Initiate Feasibility Scoping (National Environmental Policy Act)	Jan 2005
Alternative Formulation Briefing	Dec 2006
Submit Draft Report/EA to NAD/HQ	Jul 2007
Initiate Public Review of Draft Rpt/ Environmental Assessment (EA)	Jul 2007

10. FEASIBILITY PHASE COST ESTIMATE:

The preliminary cost estimate for the Feasibility Phase is \$2,000,000, which is to be cost shared on a 50-50 basis by Federal and non-Federal interests. In-kind services may be up to the full amount of the non-Federal share. This study estimate will be refined in the PMP and could change considerably based on the requirements for data collection, hydrodynamic flow model studies, and analyses that will be identified for the Feasibility Phase. A summary of the current estimated cost sharing through the Feasibility Phase is as follows:

Total Estimated Study Cost	\$2,149,000
Reconnaissance Phase (Federal)	\$149,000
Feasibility Phase (Federal)	\$1,000,000
Feasibility Phase (Non-Federal)	\$1,000,000

11. RECOMMENDATIONS:

It is recommended that this study continue into the cost shared Feasibility Phase. There is significant interest with the Commonwealth of Virginia to enter into the Feasibility Phase as expeditiously as possible. This recommendation is based on Army and budgetary policies, the likelihood that the criteria for Federal participation in project implementation will be met, and the sponsor's desire to pursue this initiative for environmental restoration.

12. POTENTIAL ISSUES AFFECTING INITIATION OF FEASIBILITY PHASE:

At this time there are no known potential issues that may affect the initiation of the Feasibility Phase or project implementation and initiation of the study will be dependent on both Federal and non-Federal funds being available.

13. VIEWS OF OTHER RESOURCE AGENCIES:

The Virginia Department of Natural Resources, VDEQ, and other interested groups have all been involved in the developmental stages of this Reconnaissance effort and are in general support of this project and the opportunities herein. Coordination with VDEQ has included recent regulatory requirements affecting the Jackson and James Rivers and ensuring that these efforts are accounted for and factored into the Feasibility Phase analysis.

14. PROJECT AREA MAP

Plate 1 is included as a project area map.

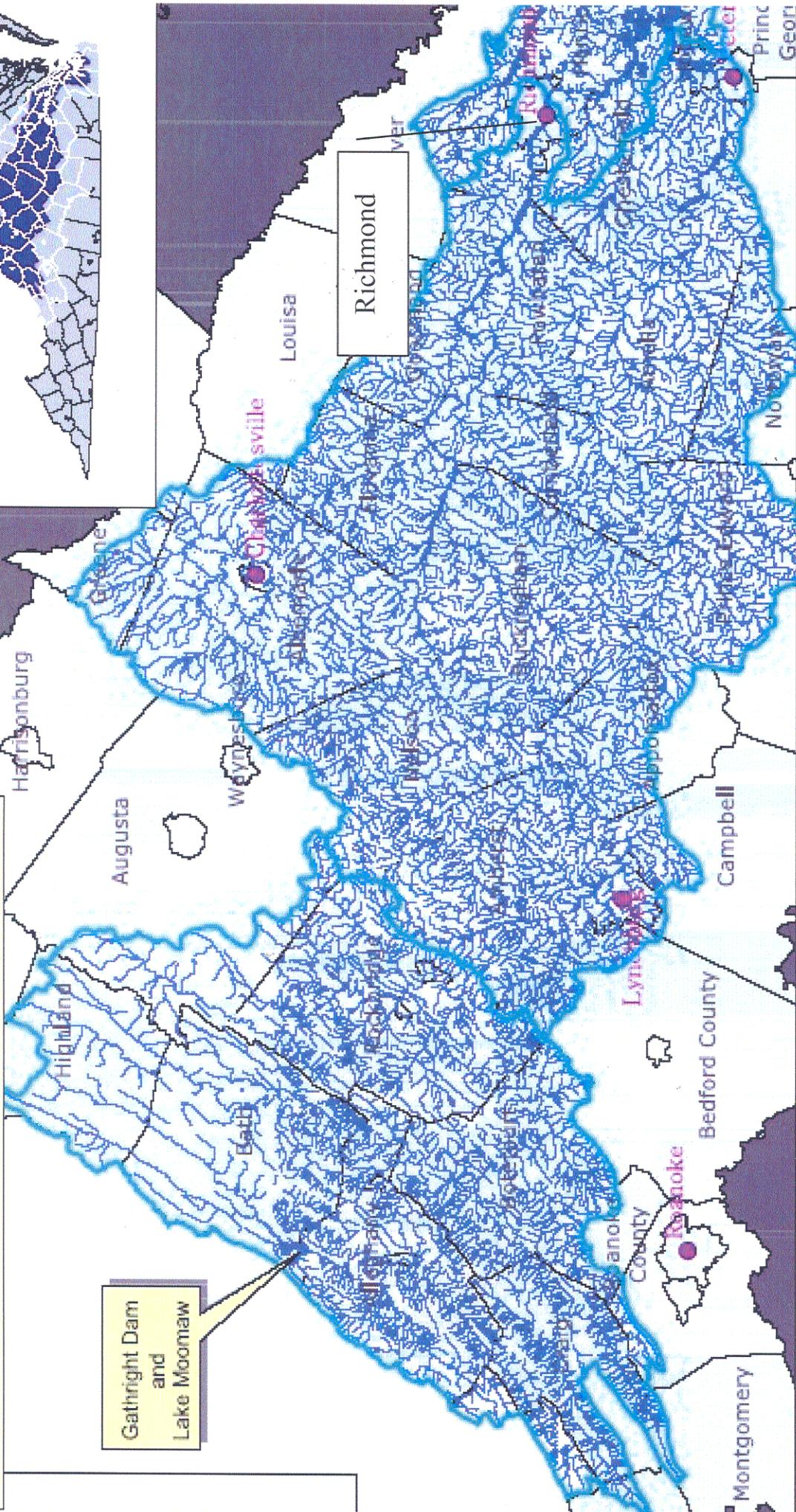
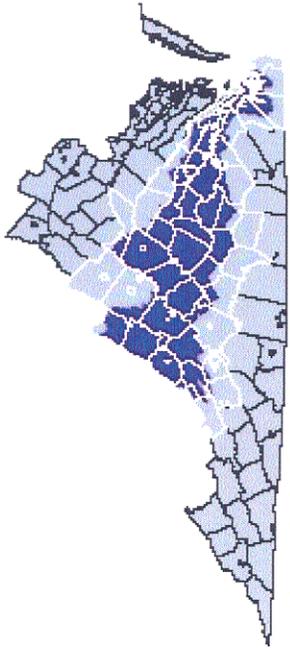
for

M. Thomasson P.E.

Yvonne J. Prettyman-Beck
Colonel, District Engineer
Commanding

Gathright Dam and Lake Moomaw Section 216

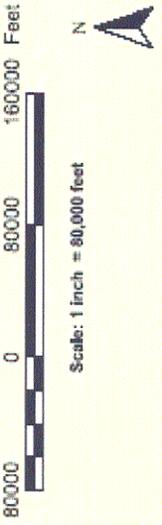
STUDY AREA MAP



Gathright Dam and Lake Moomaw



US Army Corps of Engineers
Norfolk District



Legend

- City
- River/tributary
- County
- Virginia
- Watershed

Plate 1

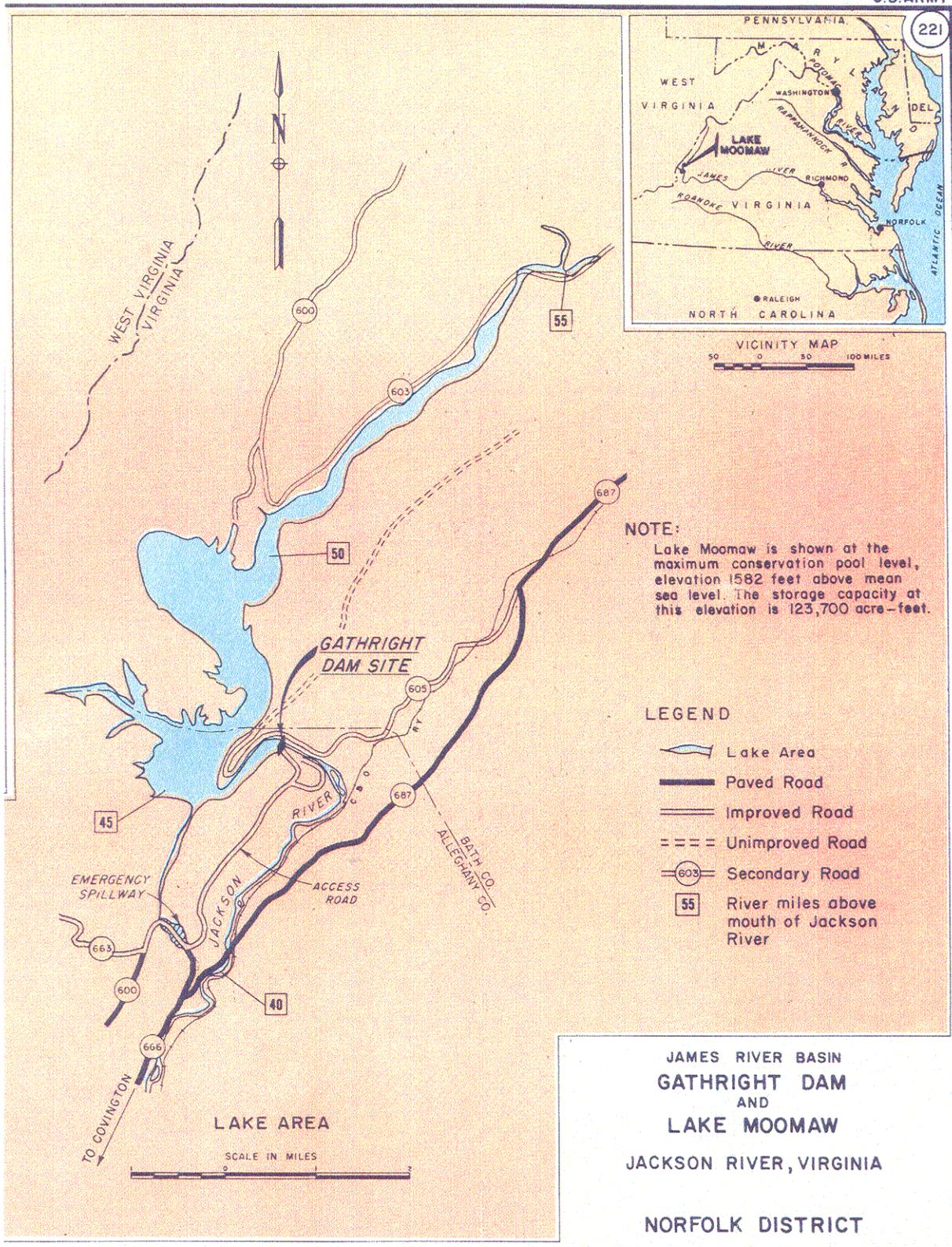


PLATE 3 Gathright Dam and Lake Moomaw, VA

Gathright Dam and Lake Moomaw, Virginia

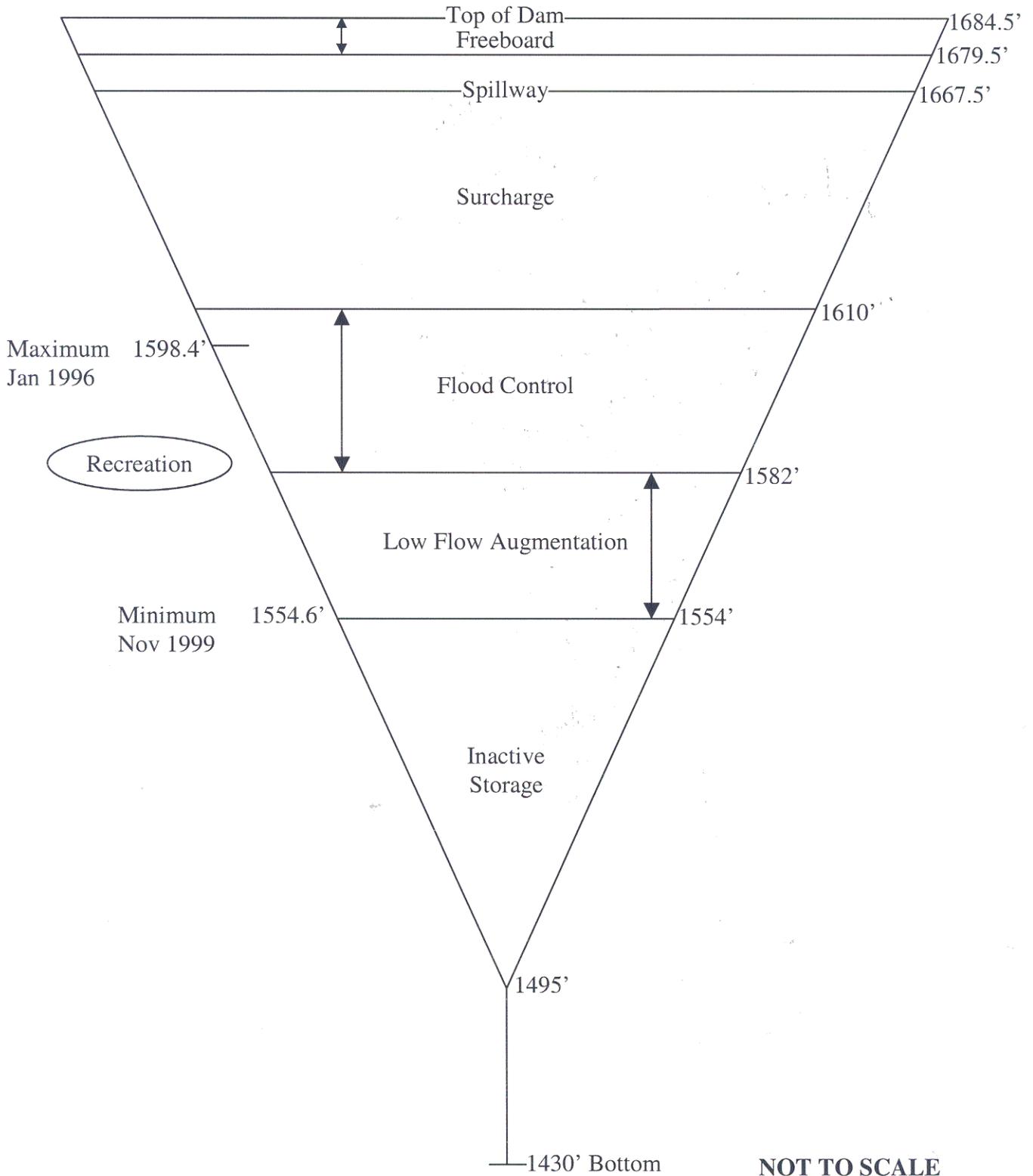


Plate 4 – Reservoir Storage Allocation
(All datums shown are National Geodetic Vertical Datum)



REC'D SEP 23 2004

COMMONWEALTH of VIRGINIA

Office of the Governor

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Richmond, Virginia 23218

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

(804) 786-0044
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September 21, 2004

Colonel Yvonne J. Prettyman-Beck
District Engineer
Norfolk District, Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Dear Colonel Prettyman-Beck:

My staff and I appreciated the opportunity to review the findings and conclusions of the Corps recently completed reconnaissance-level investigation of the Gathright Dam and Lake Moomaw, Virginia Low Flow Augmentation project. This constituted the 100% federally funded Reconnaissance Phase, the first phase of a two-phase planning process. This work is to be followed by a Feasibility Phase Study, to be 50% federally funded and 50% non-federal local sponsor funded. The feasibility phase will begin with the execution of a Federal Cost Share Agreement (FCSA) between the Corps and the non-federal local sponsor.

I am writing to notify you of the intent of the Commonwealth of Virginia to enter into a cost-sharing agreement for the development of a Feasibility Study for low flow augmentation of the Jackson and James Rivers at Gathright Dam and Lake Moomaw. The Commonwealth of Virginia understands the cost-sharing responsibilities, as defined by the Water Resources Development Act of 1986 (Public Law 99-662), as amended, and is prepared to enter into negotiations of the FCSA and to ultimately enter into the Feasibility Phase. In addition, prior to implementation of any potential Federal improvements at the Gathright Dam, we also understand and would be willing to consider providing our share of the requirements for local cooperation, including cash contributions, as outlined in the Water Resources Development Act of 1986, as amended, and current Corps policy as a non-federal sponsor.

We are hopeful that the Gathright Dam and Lake Moomaw, Virginia Low Flow Augmentation project will continue to be a recipient of Federal funding for completion of the full Feasibility Phase, and look forward to working with you on this project, as proposed to commence in the near future.

Sincerely,

W. Tayloe Murphy, Jr.

Copy: Mr. Robert G. Burnley
Director, Department of Environmental Quality

Attachment 1 - Letter of Intent