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MAR 20 2008

PUBLIC SERVICE  
COMMISSION

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

Application of Kentucky American	)	
Water Company, a/k/a/ Kentucky	)	
American Water For a Certificate	)	CASE NO.
of Convenience and Necessity	)	
Authorizing construction of Kentucky	)	2007-
RiverStation II, Associated Facilities	)	00134
and Transmission Line	)	

**BRIEF OF KENTUCKY RIVER AUTHORITY**

Filed: March 20, 2008

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

Application of Kentucky American )  
Water Company, a/k/a/ Kentucky )  
American Water For a Certificate ) CASE NO.  
of Convenience and Necessity )  
Authorizing construction of Kentucky ) 2007-00134  
River Station II, Associated Facilities )  
and Transmission Line )

**BRIEF OF KENTUCKY RIVER AUTHORITY**

The Kentucky River Authority (KRA) is a statutorily created agency acting pursuant to the authority granted to it by KRS 151.700, et. seq. Its primary mission is the protection of the Kentucky River watershed. KRS 151.720 authorizes the KRA to provide for the maintenance and reconstruction of the Kentucky River basin locks and dams, issue bonds, contract with other state agencies or others to assist in its mission, develop long range water resource and drought response plans, develop comprehensive management plans for the river basin and to protect the watershed and use of ground water and recreational opportunities in the basin. The KRA is also

required to coordinate the water resources of the Kentucky River basin among state agencies.

Because the KRA has a mandate to assure the proper management and use of the water resources of the river basin, it has a direct interest in the Commission's decision in this proceeding. Its Resolution endorsing the proposal of Kentucky-American Water Company (KAWC) to use Pool 3 of the Kentucky River as a source of raw water was submitted to the Commission on June 8, 2007. A copy is attached as exhibit 1.

There are three issues that were raised in the case, which potentially impact KRA's statutory duty to protect the interests of the Kentucky River basin: the refurbishing of Dam 3 and its funding; the adequacy of the Pool 3 water supply to meet the projected demands of the KAWC project; and the impact of the withdrawal fees associated with the KAWC proposal.

The KRA in conjunction with the U.S. Army Corps of Engineers (Corps) has been moving toward the systematic renovation of the existing dams and locks on the Kentucky River. As part of that long range effort, the KRA has acquired from the Corps several of the dams. The dam directly involved in this case is Dam 3, which is

operated pursuant to a lease with the Corps. Eventually, it is expected that the lease will convert ownership of the dam to the KRA. That lease authorizes the KRA to assume operation of Dam 3 and to make any and all repairs, replacements or other necessary improvements to that dam. Correspondence with the Corps to that effect was introduced at the March 5<sup>th</sup> hearing. For convenience it is attached as exhibit 2 to this Brief.

Because of the condition of Dam 3, the KRA has committed significant resources to restore it to an effective, operational facility. The dam will be replaced by a cellular structure located on the upstream side of the existing structure. All drilling and field work was completed in June, 2007. The engineering design is in the final stages. The project should be ready for bidding in early 2008. A letter from the engineering firm that has been awarded the contract to perform the Dam 3 project work, which describes the project status and introduced at the March 5<sup>th</sup> hearing, is attached as exhibit 3. To further bolster the operational benefits of Dam 3, the design for the repairs includes the addition of a crestgate at some point in the future.

In response to Mr. Heitzman's Supplemental testimony, KRA provided at the March 5<sup>th</sup> hearing as KRA exhibit 3 a copy of the Phase A Design Plan for Dam 3 and Lock 4. That Design Plan discusses in detail the need for, the design of and the schedule for the replacement of Dam 3. Attached as exhibit 4 is the page from that Plan showing the construction timeline of the dam replacement. Bids for the project are expected to be publicly noticed in the spring of this year – 2008. Completion of the project is expected in the late spring of 2010.

Funding of this project was approved as part of the KRA's 2006-2008 budget. Relevant pages from the Executive Budget were introduced by KRA at the March 5<sup>th</sup> hearing and are provided as exhibit 5 to the Brief. The budget includes an appropriation of \$33,200,000.00 for dam and lock improvements, including Dam 3 and Lock 4, which is sufficient to complete the project.

The KRA board has approved the project and committed this funding for its completion as reflected in the minutes of the meeting of April 19, 2006, pages 50-52 and the meeting of May 25, 2007, pages 15-16. Copies of the minutes are attached as exhibit 6. Given the commitment of funds and the board's authorization to complete the

Dam 3 renovation, there is no basis to argue that the KRA cannot or will not fulfill the objective of enhancing the long term Pool 3 water supply adequacy by completing the Dam 3 renovations.

The information provided by Mr. Richard Svindland at the November hearing in response to the Chairman's questions is consistent with the information relied on by the KRA to assess river flows generally and the Pool 3 supply adequacy in relation to this project in particular. Attached as exhibit 7 is the USGS Historical Flow Data. Those data substantiate the finding of the Kentucky Division of Water, as evidenced by the issuance of its withdrawal permit to KAWC, that Pool 3 has the confirmed capacity to meet the stated water demand of this project. The KRA has reviewed the impact of the projected withdrawals by KAWC and has determined, as reflected in its Resolution adopted May 25, 2007, that Pool 3 has an adequate long term supply capacity. That determination is reinforced by the USGS flow meter records cited by Mr. Svindland. (Transcript of November Hearing. vol. II, pp. 331-340).

Given the current adequacy of the Pool 3 reservoir and the progress toward replacing of the dam, the available water in that pool will be stabilized and could be increased simply due to the stoppage

of the significant loss of otherwise available water due to leakage through the dam that now occurs. Added to that benefit, the dam can be fitted with a crestgate in a relatively short period of time, which would allow the Pool 3 to be increased during selected periods. This additional depth of the pool could add an additional 1.5 billion gallons of water for drought mitigation, based on the KRA's estimates of the impact on the pool of the crestgate. See Bridwell Rebuttal Testimony, Exhibit A.

The final issue that affects the KRA is the impact of withdrawal fees this project will have on its ability to continue to fulfill its mandate. 420 KAR 1:0430 and 420 KAR 1:050 authorize the KRA to assess fees on water users within the Kentucky River Basin. One fee, Tier I fee, is paid by all water users within the Kentucky River basin. The fee is currently \$0.022 per 1000 gallons of water withdrawn from the Kentucky River basin. That fee is used to fund the administrative costs of the KRA. The other fee, Tier II, is applied to users that draw water from the main stem of the Kentucky River downstream of lock and dam 14. It is currently \$0.016 per 1000 gallons. (The combined fees are generally rounded to \$0.05 per thousand as reflected in the

R.W. Beck, Final Report, September, 2007, 3-1). This fee is used to fund capital projects and finance debt issued for capital projects.

Over the last five years, the average annual usage from the Kentucky River main stem has been 27,937,362,000 gallons. For purposes of comparison, assume that the KAWC plan is approved and that it withdraws 6 MGD for nine months and 15 MGD for three months from Pool 3. That amounts to annual usage of 2,970,000,000 gallons or approximately 10.6 percent of the average total usage. At the current rate, if the KAWC plan is not approved, the KRA would lose 10.6% of average annual revenue of \$447,000 or \$48,000. Based on the current budget authorization of \$33.2 million dollars, the KRA will need to increase the Tier II fee to \$0.14 per 1000 gallons. With that adjustment for currently budgeted financings, KRA will lose 10.6% of \$3,924,000 or \$416,000.

The KRA Board took the first step of this fee increase during its meeting of December 13, 2007 when it raised the Tier II fee to \$0.06 per 1000 gallons to utilize \$14 million of the authorized \$33.2 million budget authorization.

This fee revenue represents a significant portion of the funds the KRA needs to meet its budgeted projects. The only means of

recovering that revenue, if not from KAWC withdrawals, is to increase the fee on all other users, because there is no certainty of the receipt of that money if any of the suggested alternatives presented by the Louisville Water Company are pursued.

The testimony of Mr. Heitzman emphasizes that uncertainty. He admits that the proposed wholesale rate of \$1.71 was not calculated to include the KRA Tier I and Tier II fees. He also says that his proposals do not include recovery of the fees and are "silent on the issue of funds to KRA." (Tr. November Hearing, vol. III, p. 213) There is also uncertainty about the method of assessment, recovery of the KRA fees, and who would pay the fees as well as the jurisdictional status with the Commission. Mr. Heitzman's supplemental testimony filed on February 11, 2008 also does not address these issues.

While Mr. Heitzman stated that he was willing to consider a contribution by his company to the KRA equivalent to the statutory fees and is open to negotiate the payment of the fees, he is not authorized to make that commitment. (Tr. November Hearing, vol. III, p. 213). Should LWC ever make a commitment to reimburse the KRA the lost fees, there is still a question as to whether that

contribution could be earmarked for KRA use or whether it would simply go into the General Fund and be subject to appropriation at the discretion of the General Assembly. The uncertainty of the status of a LWC contribution presents a difficult obstacle for the KRA's long term financial planning and stability.

The only certainty to be gleaned from Mr. Heitzman's testimony is that the Louisville Water Company has no statutory obligation to reimburse the KRA for an equivalent fee that it would receive from KAWC for withdrawals of water from Pool 3 and that it has not made any effort or commitment to assure the recovery of that fee by the KRA or to develop a mechanism for the payment of the fee.

Assuming a sale of water by the Louisville Water Company to KAWC, such an inter-basin transfer of water from the Ohio River to the central Kentucky area could lead to the loss by the KRA of otherwise assured funds from the KAWC proposal. Inter-basin water transfers are governed by KRS 151.729, which gives the KRA the ability to comment on those transfers. However, the extent of the KRA's jurisdiction over those transfers and its ability to tax them is untested. The loss of a substantial amount of withdrawal fees would severely impact the operations of the KRA and limit its ability to

continue to make improvements to the river structures and the adjacent land. The only recourse the KRA would have is to increase the assessments to all other users, which amounts to a central Kentucky subsidy of any Louisville Water Company pipeline.

If the KRA is to continue to pursue its obligation of preserving the water resources in the Kentucky River basin, it must have an adequate, secure source of funds. The KAWC proposal provides that source of funds. The General Assembly has given the KRA statutory authority to protect the basin and its funding in KRS 224.70-140, which says: "Permits issued by the Cabinet pursuant to the provisions of KRS Chapters 151, 146, or 224 shall be consistent with the administrative regulations promulgated by the Kentucky River Authority, and the long range water resource plan and drought response plans developed by the authority." Should the KAWC proposal be denied and should the Louisville Water Company develop a viable project, any permit for that project would be subject to the terms of this statute. It cannot be said at this time, based on the information provided by the Louisville Water Company, that any of its suggested alternatives to the KAWC proposal are consistent with the KRA regulations.

In its order of December 21, 2007, the Commission raised several questions about the legal authority of LWC and the LFUCG to participate in some speculative alternative proposal for supplying the water facilities to central Kentucky. Two questions involved the ability of LWC to construct facilities and to make wholesale water sales outside Jefferson and adjoining counties. The statutory authority of the LWC limits the extension of service and facilities to adjoining counties. KRS 96.265. That limitation is, of course, further restricted by KRS 224.70-140 as discussed above, if the service, including wholesale water sales, is provided within the Kentucky River Basin.

The next question raised by the Commission's December 21<sup>st</sup> Order is whether the LFUCG can construct, own and operate a joint public/private water supply venture. As with the prior questions about the LWC's authority to provide service, this question avoids the only issue the Commission is faced with deciding – whether the KAWC proposal meets the Commission's criteria for approval. Even if LWC or the LFUCG could under some set of circumstances own, operate or finance all or a portion of the facilities needed to provide for the undisputed water deficit facing central Kentucky, there is no proposal

for the Commission to consider. Regardless of the infinite number of speculative possibilities that could conceivably be proposed, the Commission does not have any basis to reject the well documented, finalized plans for this unquestionably necessary project on the remote possibility that at some point in the future some governmental agency will formulate a plan that might provide a marginally lower cost using public revenue bonds.

While it may be appropriate to consider all alternatives and explore all possible outcomes, the decision rests on the facts presented in this case, not on hypothetical ventures that might not be legally or practically possible. As the Court said in Lockner v. N.Y., 198 U.S. 45, 76 (1905): “General propositions do not decide concrete cases.” The ability of either the LWC or the LFUCG to possibly provide a service that neither has to date offered to provide is not a viable alternative to the specific plan offered by KAWC to solve the immediate water supply needs of its customers.

The final question of the December 21<sup>st</sup> Order is whether the Commission may condition the approval of the project on limiting rate base adjustments to the estimated cost of the facilities. First, this is not a rate case. It is unclear what statutory authority the Commission

has to limit rate recovery in a certificate of need case. In dealing with estimated costs, the Commission has long held that actual costs are preferable, hence, the requirement that expenses be “known and measurable” to be allowable for ratemaking purposes. In explaining the preference for actual over estimated expenses the Commission said this:

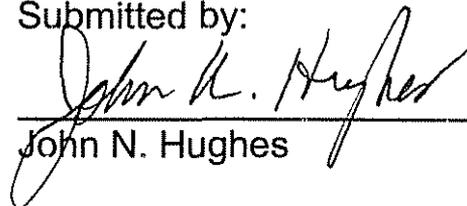
The estimated costs incident to the proposed conversion and the estimates of the operating expenses after conversion are probably as accurate as can be made at this time...On the other hand, the Commission recognizes that at this particular time it is difficult to estimate accurately the costs of building materials and of labor for the next two years. Moreover, estimates of the company’s operating revenues and expenses for the period following conversion can be made with greater accuracy after the conversion has actually taken place some two years hence. For that reason this Commission can consider the company’s proposed increase in its rate schedule more intelligently after the actual costs of conversion are known and when estimates of operating revenues and expenses can be based on conditions then prevailing.” In Re: Lexington Telephone Company, Case No. 1298, March 1, 1946. 62 PUR(NS) 253.

In Lindheimer, et. al v. Illinois Bell Telephone Company, 922 U.S. 151, 163 (1934) the Court said: “The actual experience of the company is more convincing than the tabulations of estimates.” In McCardle v. Indianapolis Water Co., 272 U.S. 400, 408 (1926), the Supreme Court said: “ It must be determined whether the rates

complained of are yielding and will yield...a sum sufficient to constitute just compensation for the use of the property employed to furnish service; that is a reasonable rate of return at the time of the investigation..." Taken together, these cases express the standard for ratemaking. To adopt an estimated cost of facilities at this time for the purpose of establishing a future rate would be contrary to the well established principles governing ratemaking.

For these reasons, the Commission should approve the KAWC application for a certificate of convenience and necessity as filed.

Submitted by:

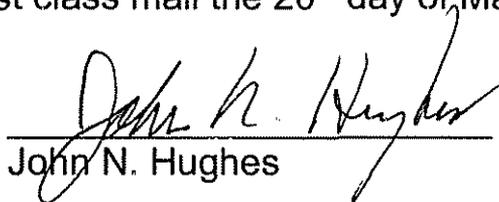


John N. Hughes

Attorney for Kentucky  
River Authority

#### CERTIFICATE OF SERVICE

I certify that a copy of this Brief was served on the parties listed below by first class mail the 20<sup>th</sup> day of March, 2008.



John N. Hughes

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Lexington-Fayette Urban County Government  
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Lexington, KY 40502

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Hodgenville, KY 42748-0150

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COMMONWEALTH OF KENTUCKY

**ERNIE FLETCHER**  
Governor

KENTUCKY RIVER AUTHORITY  
70 WILKINSON BOULEVARD  
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OFFICE (502) 564-2866  
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KRA.kv.aov

**STEPHEN REEDER**  
Executive Director

**ROBERT W. WARE**  
Chairman

June 6, 2007

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JUN - 8 2007

PUBLIC SERVICE  
COMMISSION

Ms. Beth O'Donnell  
Executive Director  
Public Service Commission  
211 Sower Boulevard  
Frankfort, Kentucky 40601

Dear Ms. O'Donnell:

Please find enclosed a Resolution approved by the Kentucky River Authority at its May 25, 2007 meeting endorsing the use of Kentucky River Pool 3 as a regional water source. This Resolution relates to Case No. 2007-00134 pending before the Commission. This is in addition to the Authority's petition for full intervention in the same case filed June 5, 2007.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Reeder".

Stephen Reeder  
Executive Director

CC: Robert W. Ware, Chairman, Kentucky River Authority

## KENTUCKY RIVER AUTHORITY

**WHEREAS**, Kentucky-American Water Company has filed an Application with the Public Service Commission of the Commonwealth of Kentucky seeking approval to build a water treatment plant near Pool 3 on the Kentucky River, Case No 2007-00134, and

**WHEREAS**, Kentucky-American Water Company intends to utilize water from Pool 3 for the plant, and

**WHEREAS**, the water treatment plant is designed to produce 20 million gallons of water a day, and is expandable to 30 million gallons of water a day, and

**WHEREAS**, the Division of Water, Department for Environmental Protection, Environmental and Public Protection Cabinet has issued Water Withdrawal Permit 1572 to Kentucky-American Water Company for its withdrawal of water from Pool 3 of the Kentucky River, and

**WHEREAS**, the Bluegrass Water Supply Commission has entered into an Agreement with Kentucky-American Water Company for the performance of the incremental engineering design work necessary to increase the water treatment plant capacity from 20 million gallons a day to 25 million gallons of water per day, and

**WHEREAS**, the Kentucky River Authority has been established to manage the surface water and ground water of the Kentucky River Basin, and

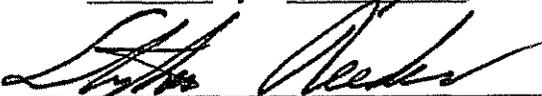
**WHEREAS**, the Kentucky River Authority supports and endorses the regional use of water in the Kentucky River, and

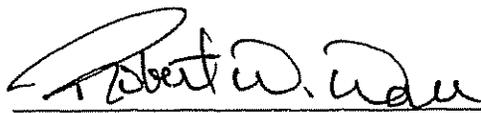
**WHEREAS**, the capital plan of the Kentucky River Authority includes the renovation of the lock and dam at Dam 3 and the addition of a crest gate to provide an additional 1.5 billion gallons of water in Pool 3 for drought mitigation,

**NOW, THEREFORE**, in consideration of the premises and the mission of the Kentucky River Authority, be it

**RESOLVED**, that the Kentucky River Authority endorses the use of Pool 3 of the Kentucky River by Kentucky-American Water Company and the Bluegrass Water Supply Commission as a source of raw water for regional use.

Adopted this 25<sup>th</sup> day of May, 2007.

  
\_\_\_\_\_  
Stephen Reeder, Executive Director

  
\_\_\_\_\_  
Robert Ware, Chairman





COMMONWEALTH OF KENTUCKY

**ERNIE FLETCHER**  
Governor

KENTUCKY RIVER AUTHORITY  
70 WILKINSON BOULEVARD  
FRANKFORT, KENTUCKY 40601  
OFFICE (502) 564-2866  
FAX (502) 564-2681  
KRA.kv.gov

**STEPHEN REEDER**  
Executive Director

**ROBERT W. WARE**  
Chairman

May 12, 2006

Lt. Col. Jeff Ogden  
Acting Commander  
United States Army Corps of Engineers  
Louisville District  
P.O. Box 59  
Louisville, Kentucky 40201

Dear Col. Ogden:

Pursuant to Department of the Army Lease No. DACW27-1-02-005 and Supplemental Agreement granting the Commonwealth of Kentucky (Kentucky River Authority) use of lands and improvements including lock and dam structures at Kentucky River Locks and Dams 1-4, the Kentucky River Authority advises and requests permission to make the following improvements to lock and dam structures; replacement of Dam 3 in its entirety, mechanical renovation of Lock 3 and mechanical renovation of Lock 4. These improvements would be accomplished entirely with state funds.

These purposed upgrades are pursuant to the State Budget Act (HB 380) enacted by the 2006 Session of the Kentucky General Assembly. Design of these improvements could begin as early as the current calendar year. Assuming all permits are secured and environmental and historical issues are successfully addressed, construction contracts could be issued within the 2007 calendar year.

I appreciate your consideration of this matter. Please contact me regarding any questions or issues that need to be specifically addressed.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Reeder".

Stephen Reeder  
Executive Director



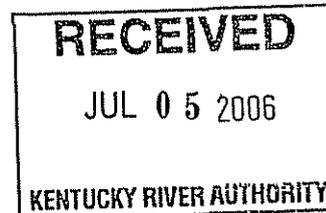
DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, LOUISVILLE  
CORPS OF ENGINEERS  
P. O. BOX 59  
LOUISVILLE KY 40201-0059

<http://www.lrl.usace.army.mil/>

Real Estate Division  
Civil and Special Projects Branch

JUN 29 2006

Mr. Stephen Reeder, Executive Director  
Commonwealth of Kentucky  
Kentucky River Authority  
70 Wilkinson Boulevard  
Frankfort, Kentucky 40601



Dear Mr. Reeder:

Thank you for your letter of May 12, 2006. Under the terms of Department of the Army Lease No. DACW27-1-02-005, the replacement of Dam 3 in its entirety and mechanical renovations to Locks 3 and 4 are approved subject to the Commonwealth's compliance with federal, state, and local laws and regulations, compliance with NEPA, and subject to successful application for and issuance of a Section 10 permit. The State Historic Preservation Officer (SHPO) must also be notified of any proposed rehabilitation or structural alterations to these properties. Please refer to paragraph 31 of the lease agreement regarding historic preservation of the leased area.

Conceptually, the permitting process should be straightforward and non-controversial if no modifications to pool levels or flow regimes are proposed as part of the dam replacement. If modifications to pool levels and flow regime are proposed, this consent would be subject to further review to study any possible adverse impact on adjacent landowners. It is anticipated that coordinating/assessing the historic impacts is the most likely issue that would produce schedule delays. Accordingly, we urge early and informal coordination as soon as possible to facilitate a 2007 start on the work.

If you have any questions, please contact Mrs. Nancy Davis, Real Estate Division, (502) 315-7004.

Sincerely,

for Jeffrey S. Ogden  
LTC, Corps of Engineers  
Acting Commander and District Engineer





1409  
North Forbes Road  
Lexington, Kentucky  
40511-2050

859-422-3000  
859-422-3100 FAX

www.fmsm.com

December 6, 2007

O.1.1.LX2006159L08

Mr. Stephen Reeder  
Executive Director  
Kentucky River Authority  
70 Wilkinson Boulevard  
Frankfort, Kentucky 40601

Re: Schedule Update  
Kentucky River Locks and Dams 3 and 4 Renovation  
Henry, Owen, and Franklin Counties, Kentucky

Dear Mr. Reeder:

The purpose of this letter is to provide an update on the progress of the design effort for renovation of Kentucky River Dam 3, Lock 3, and Lock 4. FMSM and Bergmann Associates have previously submitted Geotechnical Study and Existing Conditions reports on these facilities to support the design efforts. The remaining deliverables are the Phase A, B, and C design packages.

The Phase A design package will contain schematic design drawings and a brief written report with an estimated construction schedule and budget. This package is expected to be ready in the first or second week of January. The Phase B design package will contain more refined design drawings, a written design memorandum, and outline specifications. The Phase C design package will contain the final design drawings, specifications, and design memorandum needed to put the project out for bid. To facilitate a spring bidding, this package will be submitted in March. The geotechnical investigation and existing conditions portions of the project are now at 100% completion, and the design effort is at the 25% complete level.

FMSM and Bergmann Associates appreciate the opportunity to provide these services. Please call if you have any questions.

Sincerely,

FULLER, MOSSBARGER, SCOTT AND MAY  
ENGINEERS, INC.

Tom Pace  
Senior Project Engineer

Greg Yankey  
Associate

/ms



### Schedule for Base Bid

Project Task	Agency	2008												2009												2010											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
<b>1 Property Acquisition</b>	KRA, KYFAC																																				
<b>2 Permitting</b>																																					
a Federal 404 Permit	KHC																																				
SHPO Review	USFWWS																																				
USFWWS Review	Stantec																																				
Prepare/Submit Permit Application	USACE																																				
Review/Approve Permit																																					
b State Permit for Dam Construction	Stantec																																				
Publish Public Notice	Stantec																																				
Prepare/Submit Draft Applications	KDOW																																				
Review Draft Applications	Stantec																																				
Prepare/Submit Applications	KDOW																																				
Review/Approve Permit	KDOW																																				
<b>3 Design</b>																																					
a Phase A Design Package	KRA, KYFAC																																				
Review Design																																					
b Phase B Design Package	Stantec/BA																																				
Prepare Design	KRA, KYFAC																																				
Review Design																																					
c Phase C Design Package	Stantec/BA																																				
Prepare Design and Specifications	KRA, KYFAC																																				
Review Design																																					
<b>4 Bidding and Contracting</b>																																					
a Prepare Bid Package	Stantec/BA																																				
Prepare Bid Documents	KRA, KYFAC																																				
Prepare Bid Documents	Contractor																																				
b Bidding	KRA, KYFAC																																				
c Bid Review and Contract Award																																					
<b>5 Base Bid - Dam No. 3 Constructor</b>																																					
a Submittals	Contractor																																				
b Mobilization and Site Preparation	Contractor																																				
c Demolish Portion of Abutment Wall Extension	Contractor																																				
d Main and Aic Cells, and East Abutment	Contractor																																				
e Lock Wall Connection	Contractor																																				
f Training Wall Cell and Aic	Contractor																																				
g Abutment Stone Fill	Contractor																																				
h Site Restoration and Demobilization	Contractor																																				

Public Agency Activity

Consultant Activity

Contractor Activity





2006-2008

# Budget of the Commonwealth

**Ernie Fletcher, Governor**

**Bradford L. Cowgill, State Budget Director**

**Kentucky**  
UNBRIDLED SPIRIT™

**Volume II**

**General Government**

**Fiscal Year  
2005-2006**

**Fiscal Year  
2006-2007**

**Fiscal Year  
2007-2008**

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**Kentucky River Authority**

**Ky River Locks and Dams Maintenance & Ren Pool**

**37,800,000**

This pool provides funding for critically needed repairs to several dams on the Kentucky River. The Authority has already completed the necessary design work to replace Dam 9, and funding from this Pool will be used to construct the new dam Dam 9, in Jessamine County just upstream from Valley View, impounds much of the water supply for the City of Lexington.

Pool funds will be used for the state match of 20% of the cost for the Dam 10 replacement project. The Army Corps of Engineers has been authorized by Congress to replace Dam 10, near Fort Boonesborough State Park, at a cost of approximately \$19.2 million. The project is still in the design phase, and the state match required during the next biennium is expected to be less than \$2 million.

The Authority is authorized to use pool funds for renovation and improvement of other facilities and to reconstruct Dam 3 and its lock near Monterey in Owen County and the lock in Dam 4 at Frankfort.

Restricted Funds  
Agency Bonds

4,600,000  
33,200,000

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**Kentucky River Authority Summary**

**37,800,000**

**Restricted Funds**

**4,600,000**

**Agency Bonds**

**33,200,000**

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COPY

IN RE: KENTUCKY RIVER AUTHORITY

MEETING NO. 120

April 19, 2006

1:15 p.m.

Kentucky Higher Education Assistance Authority  
100 Airport Road  
Frankfort, Kentucky 40601

APPEARANCES

Mr. Bob Ware  
CHAIRMAN

Mr. William Grier  
Mr. William Welty  
Mr. John Martin  
Mr. Rex Morgan  
Mr. R. C. Day  
Mr. Randal Christopher  
Mr. Daryl Newby  
Mr. Warner Caines  
MEMBERS OF THE KENTUCKY  
RIVER AUTHORITY

Mr. Paul Gannoe  
Proxy for Secretary Robbie Rudolph  
FINANCE CABINET

Also Present:

Mr. Stephen Reeder  
Ms. Kayla Elliston  
Mr. David Hamilton  
Mr. Earl Gulley  
Mr. Don Morse

CAPITAL CITY COURT REPORTING  
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900 CHESTNUT DRIVE  
FRANKFORT, KENTUCKY 40601  
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MR. MARTIN: I make the motion.  
MR. WELTY: Second.  
CHAIRMAN WARE: Got a motion and a second.  
All those in favor say aye. Motion carries.

MOTION TO APPROVE FINANCIAL REPORT . . . . . 7, LINE 15

MR. CAINES: Make the motion.  
CHAIRMAN WARE: Second?  
MR. MARTIN: I'll second.  
CHAIRMAN WARE: All those in favor. Opposed  
like sign. Okay.

MOTION TO ADOPT AS PART OF THE MASTER  
PLAN THE SUMMARY OF THE FY '06 AND  
'07 BUDGET CHANGE AND KRA'S INTENT  
TO EXECUTE THE PLAN . . . . . 52, LINE 9

MR. MARTIN: I'll make the motion.  
MR. GRIER: I would move that we adopt the  
intent of this as part of the master plan --  
I'll name the document -- the summary of FY  
'06 and '07 budget changes.  
MR. REEDER: Right. And our intent to execute  
that plan.  
MR. GRIER: Yes.  
CHAIRMAN WARE: Okay. We have a motion.  
Okay. We have that motion on the floor.  
MR. MARTIN: Second.  
CHAIRMAN WARE: John seconds it. Any  
discussion of that particular motion? Any  
further discussion? All those in favor of  
that motion let it be known by saying aye.  
Any opposition by a like sign. Motion  
carries.

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MOTION TO ENTER INTO CONTRACT WITH  
LOGAN & GAINES FOR LEGAL SERVICES . . . . . 25, LINE 22

MR. WELTY: Make a motion that we enter the  
contract with Logan & Gaines for our contract  
for attorney fees for this, I guess, biennium.  
Or is it a year?  
MR. REEDER: No. The way these contracts are  
structured they'll run out and we'll have to  
come back and renew it again--do this again in  
July because--the fiscal year--for the rest of  
the--  
MR. WELTY: Okay. Between now and the end of  
the year?  
MR. REEDER: Yes.  
MR. WELTY: Until June the 30th of 2006.  
CHAIRMAN WARE: Okay. We have a motion on the  
floor.  
MR. DAY: I'll second it.  
CHAIRMAN WARE: And have a second. Any  
discussion? Any further discussion? All in  
favor let it be known by saying aye.  
Opposition like sign. Motion carries.

MOTION TO PURSUE FY '07 CONTRACT AS  
OUTLINED WITH USGS . . . . . 81, LINE ?

MR. WELTY: I make that motion.  
MR. GRIER: I second it.  
MR. HAMILTON: As far as the motion, do you  
want to go ahead and direct us to go ahead  
and just do the contract?  
MR. GRIER: Adopt the revised plan.  
MR. HAMILTON: Okay.  
MR. GRIER: Is that what you mean?  
MR. WELTY: Oh-huh (affirmative).  
CHAIRMAN WARE: Division of Water is here  
today. They may want to accept a larger  
responsibility for the financial aspects of--  
MR. GOODMAN: We can't commit to that at this  
time.  
CHAIRMAN WARE: I tried.

1 take care of a lot of Central Kentucky's problems.

2 Well, the other side of that, they say,  
3 well, it won't really. There's other things to be done.  
4 Well, that's where the members of the Bluegrass Water  
5 Commission come in. Nobody has ever suggested that raw water  
6 within itself will solve a problem but you've got to have  
7 that before it's treated and this all presupposes that either  
8 the Bluegrass Commission or all of the utilities up and down  
9 the river increase their plant capacities to take advantage  
10 of this water and these supplies. So, you clarify that.

11 There was an article the other day that  
12 was in the paper, a very good article but a misleading  
13 headline, and it basically said this is great but won't solve  
14 the problem. Well, no, it won't. We don't pretend to say  
15 that it solves the problem without people building treatment  
16 plants because you can't drink raw water. So, I thought I  
17 would make that point.

18 I think, Mr. Chairman, we need--and  
19 we've talked about this in our private meetings. Bob is  
20 going to wish he never got elected Chairman because I've had  
21 him up here at my office I don't know how many times and  
22 conferred with him at my house and other places on this stuff  
23 late at night and every other time. So, we're going to need  
24 a resolution--

25 CHAIRMAN WARE: You've brought me out

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1 to do with it. That's the way it was written so they had the  
2 final say anyway. This just happens to be the first time  
3 that they have had an opportunity to speak on the issue. So  
4 it's kind of in reverse, but this is their enacted plan. I  
5 don't think we can adopt that until its the law but I think  
6 we can express an intent to adopt it.

7 CHAIRMAN WARE: Well, I think given the  
8 fact that you are questioned by members of the Conference  
9 Committee whether the board would accept this and support it,  
10 I think it would be important today to take some action  
11 indicating our intent to ratify the executive budget as our  
12 plan.

13 MR. REEDER: And intent to carry it  
14 out.

15 CHAIRMAN WARE: To carry it out as  
16 appropriate. And then after the Governor does whatever he's  
17 going to do over the next few days, then we can take a final  
18 action on that at a later meeting.

19 MR. REEDER: Right.

20 CHAIRMAN WARE: But, yes. I think we  
21 need to take that action today if somebody wants to make that  
22 in terms of a motion.

23 MR. GRIER: What you're saying, Bob, is  
24 to essentially adopt this as a component of the master plan.

25 CHAIRMAN WARE: Right. Since it wasn't

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1 of retirement it seems like.

2 MR. REEDER: That's right -- to at  
3 least express an intent. I mean, this stuff could get  
4 vetoed. It's not law until July, whatever. But assuming it  
5 becomes law or if it becomes law and the budget is passed  
6 like it is, it's not line itemed or whatever it is -- first  
7 of all, that the plan adopted by the General Assembly, we  
8 should resolve that the plan adopted by the General Assembly,  
9 which has been adopted, be our short-term infrastructure  
10 plan.

11 Now, we still need to address some  
12 other things in the planning session such as the long-range  
13 things.

14 CHAIRMAN WARE: Twenty-year stuff?

15 MR. REEDER: Exactly. The stuff that  
16 goes on down the road like Mayor Martin has talked to me  
17 about, the possible big reservoir at Dam No. 8, off-stem  
18 reservoirs, things of this nature. These things were still  
19 laying in our plan, although they were somewhat inactive, and  
20 we need to examine those to see what we want to support as a  
21 group. So, it doesn't have anything to do with that, but I'm  
22 talking about the short-term construction plan.

23 The 2000 legislation stated that we  
24 would turn a plan in and they, the legislature, would adopt  
25 it or veto it, or item it, or alter it, whatever they wanted

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1 contained in our six year short range plan to begin with and  
2 since we put that together other things have come about with  
3 respect to the commission's and Kentucky-American's intent to  
4 proceed. It's really raised the stakes for Pool 3 which is  
5 reflected in the executive budget.

6 MR. GRIER: Yes.

7 CHAIRMAN WARE: I think we need to now  
8 recognize that as part of our short term plan.

9 MR. GRIER: Just short term?

10 CHAIRMAN WARE: Well, it just depends  
11 on how long it takes to implement what's contained in that.  
12 I would hope that within six years we would be able to  
13 implement what's contained but just endorse all the  
14 components--

15 MR. GRIER: The short term.

16 CHAIRMAN WARE: ---of our plan.

17 MR. GRIER: Yes. Yes, six years is  
18 short term.

19 CHAIRMAN WARE: Yes.

20 MR. GRIER: So you need a motion to  
21 essentially adopt this as a component or the findings of  
22 this. It doesn't have to be verbatim.

23 MR. REEDER: Our intent to.

24 CHAIRMAN WARE: Or generically the  
25 executive budget, yes.

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1 MR. REEDER: Our intent because until  
2 its the law we don't know if that's what it is.  
3 CHAIRMAN WARE: Right.  
4 MR. GRIER: Okay.  
5 MR. REEDER: Our intent to adopt which  
6 we would do it in another meeting. That's being a little  
7 technical but it's not really the law right now.  
8 MR. GRIER: Yes. Right. That's right.  
9 MR. MARTIN: I'll make the motion.  
10 MR. GRIER: I would move that we adopt  
11 the intent of this as part of the master plan -- I'll name  
12 the document -- the summary of FY '06 and '07 budget changes.  
13 MR. REEDER: Right. And our intent to  
14 execute that plan.  
15 MR. GRIER: Yes.  
16 CHAIRMAN WARE: Okay. We have a  
17 motion. Okay. We have that motion on the floor.  
18 MR. MARTIN: Second.  
19 CHAIRMAN WARE: John seconds it. Any  
20 discussion of that particular motion? Any further  
21 discussion? All those in favor of that motion let it be  
22 known by saying aye. Any opposition by a like sign. Motion  
23 carries.  
24 MR. REEDER: Thank you. Hope I didn't  
25 take too--I thought it very important--and not every cabinet

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1 want to ask them for.  
2 MR. WELTY: Steve, before you get away  
3 from the podium, if the budget does go through like we hope  
4 it does and I'm looking on the capital construction here,  
5 Fuller, Mossbarger design of nine, and I think I heard Don  
6 say a while ago that we should have a bill for the final but  
7 yet we haven't seen the proposal yet. I guess my question is  
8 can we get that next meeting so we can look at this or are we  
9 going to take what they do, design, and run with it without  
10 approval or what?  
11 MR. REEDER: The bill?  
12 MR. WELTY: Design of nine.  
13 MR. REEDER: The design at nine, I can  
14 arrange to have them come in and show you or show the group  
15 here---  
16 MR. WELTY: Are they done?  
17 MR. REEDER: ---yes -- what they've  
18 got. Yes.  
19 MR. WELTY: They're done?  
20 MR. REEDER: Yes. They'll be close to  
21 being done.  
22 MR. MORSE: They told us last week that  
23 their design plans would be done in June, the end of June.  
24 MR. REEDER: Right. You might want to  
25 wait until June to see the final ones because the

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1 head got invited to the Congress Committee. I was the only  
2 individual invited twice. Nobody else got invited twice.  
3 And then the statement made to us that the Republican caucus  
4 spent more time on this than anything else was somewhat  
5 flattering to this entire organization and I think it marks a  
6 landmark.  
7 Just like the 2000 legislation that we  
8 did which resulted from the Carrollton--it all started with  
9 the planning session in late '99 in Carrollton. It went from  
10 there to the legislation, the subsequent project that put us  
11 on the map somewhat with Congressman Fletcher at that time  
12 promoting 10 after he learned about the plan--as a result of  
13 him learning about the plan and then this.  
14 Somebody said, well, what if it's  
15 vetoed. I said, well, I tell you what. Even if it's vetoed  
16 we've still made on heck of an impact and we ought to  
17 position ourself for the championship next year.  
18 I tell you. The winner is, Rex Morgan,  
19 a new member, he's got a lot to go home and claim credit for.  
20 Two of these pieces of infrastructure are in his district or  
21 in his county, Dam 3. I got to thinking about that. Gosh,  
22 we've been working on nine forever and he comes on the board  
23 and we get Dam 3 and--who did you talk to, Rex?  
24 MR. MORGAN: I don't know. If you find  
25 out just let me know because I've got some other things I

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1 Preservation Officer might call for the alternation.  
2 MR. WELTY: No sense in looking at one  
3 until its done. I just was asking that question. We can't  
4 move forward until we get the design in here.  
5 MR. REEDER: Right.  
6 CHAIRMAN WARE: But it'll be a cell dam  
7 similar to 10 across the upstream side of the dam, the  
8 existing dam.  
9 MR. REEDER: That's the design. Yes,  
10 sir. Just like the Corps proposed at 10.  
11 MR. WELTY: Did that have an  
12 operational lock on it?  
13 MR. REEDER: No.  
14 MR. WELTY: Okay.  
15 MR. REEDER: No.  
16 MR. WELTY: So that didn't change  
17 either?  
18 MR. REEDER: No. But to clarify, as  
19 with all of our facilities and those that have a cell dam in  
20 front of them, the lock is still there.  
21 This group has historically passed or  
22 had the policy of not imposing a death sentence on a lock.  
23 We've had the option presented to us that it could be poured  
24 full of concrete or whatever. We've always said, look, we  
25 might want to reserve the right -- don't know what's going to

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COPY

IN RE: KENTUCKY RIVER AUTHORITY

MEETING NO. 134

May 25, 2007
12:00 Noon
Kentucky Infrastructure Authority
1024 Capital Center Drive
Frankfort, Kentucky

APPEARANCES

- Mr. Bob Ware CHAIRMAN
Mr. Randall Christopher
Mr. William Grier
Mr. William Welty, Sr.
Mr. L. C. Reese
Mr. Rex Morgan
Mr. Warner J. Caines
Mr. R. C. Day
Mayor Michael Miller
Mr. Daryl Newby
Mr. Paul Gannoe
Commissioner Susan Bush
MEMBERS OF THE KENTUCKY RIVER AUTHORITY
Mr. Stephen Reeder EXECUTIVE DIRECTOR
Mr. Don Horse
Mr. David Hamilton
Mr. Earl Gulliey
Ms. Sue Ann Elliston
Ms. Kayla Elliston
KENTUCKY RIVER AUTHORITY STAFF

CAPITAL CITY COURT REPORTING
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900 CHESTNUT DRIVE
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- MOTION TO APPROVE KRA MINUTES #133 . . . . . PAGE 3 LINE 10
CHAIRMAN WARE: We're going to have a few additions to the agenda, but that will occur later on this afternoon. The first order of business will be approval of the minutes of our March meeting.
MR. MORGAN: So moved.
MR. MILLER: Second.
CHAIRMAN WARE: We've got a motion and a second. All in favor, say aye. Motion passes.
MOTION TO APPROVE FINANCIAL REPORT . . . . . PAGE 8 LINE 14
MR. WELTY: Okay. I make a motion we approve the financial report.
CHAIRMAN WARE: We've got a motion to approve the financial report, if there's not any other questions.
MR. CHRISTOPHER: Second.
CHAIRMAN WARE: We've got a second. All in favor, say aye. Motion passes.
MOTION TO APPROVE FY 2000-2014 CAPITAL CONSTRUCTION PLAN . . . . . PAGE 16 LINE 9
MR. MILLER: I'll make a motion we approve it.
COMMISSIONER BUSH: Second.
CHAIRMAN WARE: We have a motion by Mr. Miller and a second by Ms. Bush to approve this six-year plan. Any further discussion? All in favor of this motion, let it be known by saying aye. Any opposition by a like sign. Motion carries.
MOTION TO REQUEST PROPOSALS FOR ENGINEERING STABILITY ANALYSIS ON DAMS 1, 2, 4, 5, 6, 7, 8, 11, 12, 13 AND 14 WITH A \$500,000 UPSET LIMIT . . . . . PAGE 33 LINE 17

MR. HAMILTON: Do we need a motion to go ahead and put that Request for Proposals on that project with an upset limit?
CHAIRMAN WARE: With a half-million-dollar upset limit, yes.
MR. GRIER: So moved.
MR. CHRISTOPHER: Second.

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CHAIRMAN WARE: We've got a motion and a second. Any discussion?
MR. WELTY: Have we done any of this on any of these other dams that's on this list? I was thinking at some of those, we had already done it.
MR. HAMILTON: The ones that are missing there are the ones that we have -- 9 and 10, and then 3 is currently underway. The other ones would be---
MR. WELTY: I understand. I thought we had looked at 8.
MR. HAMILTON: The only thing done with 8 was concerning the leakage. Not a whole lot was done with the stability of it. There's going to be some older stuff, I guess in the old Harza report where they kind of laid out I guess a 10-, 20-year fix this dam, fix this dam report which I would assume would be part of this project as well because that was probably--well, that Harza report dates back to, what, the early nineties, late eighties. So, you're looking at a report that's twenty years old.
But as far as the other ones that are on there, you know, no real substantial stability analysis has ever been done on them.
COMMISSIONER BUSH: Dave, I assume one of the products of this effort could be a recommendation to do a more detailed analysis if they found something that was seriously wrong.
MR. HAMILTON: Yeah, if they found any evidence out there, part of the dam settling or---
COMMISSIONER BUSH: And then we could come back and make a decision at that time. So they are going to make recommendations if they feel further evaluation is necessary?
MR. HAMILTON: Yes. We definitely would like to have that as part of it. That would be one big piece. Like Steve said, the other big piece is kind of rating them, what's the highest hazard dam. More or less, we want a comparative. Is Dam 12 worse than Dam 13. And then we will take that information and add in our information as far as what cities utilize that pool, how important is it, and put those two together to kind of help develop our capital construction plan going forward.

1 what the federal funding is authorized to be right now.  
 2 Then in the last biennium, we go back  
 3 down to Dam 3 and install the crest gate. And we've put a  
 4 little escalation in that. It's more in the \$0.5 million  
 5 range over the crest gate up at Dam No. 9. And then to  
 6 complete out the lock renovation for completion of that  
 7 system, there's \$10.9 million for renovation of Locks 1 and  
 8 2.

9 So, the total plans over the six-year  
 10 period is a little over \$50 million. Only \$800,000 of that  
 11 is coming from cash which we've identified coming from cash  
 12 carryforwards from the financial report. However, there's  
 13 some other potential uses for that that may be identified in  
 14 today's meeting. So, likely we're looking at \$50 million in  
 15 debt financing which would add on top of the \$32 million that  
 16 we've got authorized right now.

17 CHAIRMAN WARE: Anybody have any  
 18 questions about this?

19 MR. MILLER: On the debt financing,  
 20 doesn't the General Assembly have to authorize that?

21 MR. MORSE: Yes.

22 CHAIRMAN WARE: The additional fifty.  
 23 Of course, that could all change depending on the results of  
 24 the stability analysis that we're going to be doing at the  
 25 other locations obviously, if there's something that floats

1 because it's not identified at this time.

2 COMMISSIONER BUSH: So, there's no  
 3 provisions for if you have an emergency that has a public  
 4 safety issue?

5 MR. MORSE: Oh, if it's identified as a  
 6 public safety-based emergency, yes, you can act on that. But  
 7 as the rules go on the budget process, we're supposed to have  
 8 everything in here now that we plan to do.

9 MR. MILLER: I'll make a motion we  
 10 approve it.

11 COMMISSIONER BUSH: Second.

12 CHAIRMAN WARE: We have a motion by Mr.  
 13 Miller and a second by Ms. Bush to approve this six-year  
 14 plan. Any further discussion? All in favor of this motion,  
 15 let it be known by saying aye. Any opposition by a like  
 16 sign. Motion carries. Thank you, Don.

17 Kind of like Steve was saying, this is  
 18 looking into a crystal ball as we know it right now, but  
 19 there's any number of contingencies that could occur. For  
 20 instance, with respect to No. 3, if things change on new  
 21 construction there that would obviate the need or the ability  
 22 to support a movable crest weir, that could change in the  
 23 future. So, all this is subject to change on a case-by-case  
 24 basis.

25 Now we will have the engineer's report

1 to the top.

2 MR. MORSE: There's not any other dam  
 3 reconstruction projects in this plan. Of course, we'll be  
 4 doing it again in two years and you can amend it at that  
 5 time.

6 MR. REEDER: This revision is required  
 7 every budget session of the Legislature, that you project on  
 8 out there four more years or six years, two beyond what your  
 9 budget is for, and you have to do this with the best  
 10 information you have.

11 Like the Chairman pointed out, after  
 12 while, we're going to consider what we already approved in  
 13 our Planning Session in November of a stability analysis to  
 14 give us sort of a blueprint of the dams we need to go to in  
 15 order of necessity.

16 So, these projects that are in there  
 17 that are at the end of this thing, like the lock renovations,  
 18 they could come out. This is not set in stone. It's  
 19 required. Actually, I guess an easy way to say it, it's not  
 20 set in stone beyond two years.

21 MR. MORSE: It would be a bit of a  
 22 problem if the study—we don't know how long the study is  
 23 going to take. We haven't even procured it yet or approved  
 24 it as yet. But if you were to identify another dam  
 25 renovation project, you might run into some project delay

1 by Dave Hamilton.

2 MR. HAMILTON: Good afternoon. The  
 3 main project to report on obviously is the Dam 9  
 4 reconstruction which is well underway. We have monthly  
 5 meetings with the contractors as well as the engineering firm  
 6 that's doing the inspections for us. Mr. Gannoe was down  
 7 there with me a couple of weeks ago.

8 What they've done so far is they've got  
 9 the first cell completely poured. If you will remember, the  
 10 new dam is consisting of a row of eight 52-foot-diameter  
 11 concrete cells that stretch across the entire river. So,  
 12 they've got the first one of those eight completely poured  
 13 and they've begun the soil excavation for the second concrete  
 14 cell.

15 So far, all the work has been up on the  
 16 land. They're beginning on the lock side of the river and  
 17 then working across their way to the far abutment. So far,  
 18 all their work has been up on the land. They haven't done  
 19 any work down in the river itself yet. They won't get to  
 20 that until they start working on the third cell.

21 Luckily, there hasn't been really any  
 22 big surprises with regards to the project. There's been  
 23 several change orders, all at no cost. However, there was  
 24 one change order actually that decreased the project cost by  
 25 about \$11,000. So, it's kind of an unusual change order, and



# Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1930 Drought								1953 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
1/1	4530	1/1	7600	1/1	9120	1/1	10100	1/1	646	1/1	1030	1/1	1460	1/1	1980
1/2	3410	1/2	5600	1/2	7470	1/2	9140	1/2	1020	1/2	1390	1/2	1500	1/2	1790
1/3	3410	1/3	7600	1/3	7470	1/3	9140	1/3	1550	1/3	2110	1/3	1920	1/3	2760
1/4	3960	1/4	6400	1/4	7470	1/4	9140	1/4	2340	1/4	2960	1/4	2510	1/4	2900
1/5	3960	1/5	5850	1/5	7080	1/5	7780	1/5	2360	1/5	3360	1/5	3570	1/5	3470
1/6	3410	1/6	5350	1/6	6700	1/6	7340	1/6	2190	1/6	3200	1/6	3790	1/6	3320
1/7	3020	1/7	4850	1/7	5970	1/7	6500	1/7	9010	1/7	9150	1/7	5180	1/7	3550
1/8	2660	1/8	5600	1/8	5970	1/8	10100	1/8	20800	1/8	28100	1/8	24900	1/8	21400
1/9	2660	1/9	7600	1/9	17100	1/9	17900	1/9	28600	1/9	36100	1/9	36200	1/9	33100
1/10	2430	1/10	6400	1/10	10400	1/10	12100	1/10	20800	1/10	38600	1/10	41000	1/10	40900
1/11	2010	1/11	4850	1/11	8280	1/11	9140	1/11	12900	1/11	26800	1/11	39000	1/11	41100
1/12	1640	1/12	3850	1/12	5970	1/12	7340	1/12	9110	1/12	14600	1/12	23800	1/12	27400
1/13	1640	1/13	3850	1/13	5280	1/13	8220	1/13	5840	1/13	9820	1/13	14300	1/13	16200
1/14	1640	1/14	4850	1/14	6700	1/14	10100	1/14	4140	1/14	7590	1/14	9900	1/14	11000
1/15	1820	1/15	5600	1/15	9120	1/15	9620	1/15	3290	1/15	5420	1/15	7460	1/15	8310
1/16	1640	1/16	4850	1/16	7470	1/16	9140	1/16	2640	1/16	4360	1/16	5960	1/16	6600
1/17	1470	1/17	3850	1/17	5970	1/17	7340	1/17	2450	1/17	3890	1/17	4750	1/17	5940
1/18	1390	1/18	3200	1/18	5280	1/18	5720	1/18	9020	1/18	9750	1/18	9120	1/18	8590
1/19	1100	1/19	2620	1/19	3880	1/19	4980	1/19	11700	1/19	16100	1/19	16300	1/19	14700
1/20	855	1/20	2260	1/20	3450	1/20	4080	1/20	8200	1/20	13700	1/20	17900	1/20	18200
1/21	970	1/21	2080	1/21	3450	1/21	3910	1/21	6960	1/21	9440	1/21	13200	1/21	14000
1/22	1030	1/22	2440	1/22	3450	1/22	3560	1/22	12800	1/22	10900	1/22	10800	1/22	10700
1/23	1030	1/23	2260	1/23	3310	1/23	3220	1/23	12800	1/23	15600	1/23	14900	1/23	13200
1/24	970	1/24	2080	1/24	3170	1/24	3220	1/24	9140	1/24	14700	1/24	18900	1/24	19300
1/25	1310	1/25	2080	1/25	2900	1/25	3220	1/25	9620	1/25	14700	1/25	19100	1/25	20000
1/26	1160	1/26	2080	1/26	2900	1/26	3220	1/26	9240	1/26	13700	1/26	17100	1/26	17600
1/27	1640	1/27	2800	1/27	3170	1/27	3220	1/27	7010	1/27	10900	1/27	15000	1/27	15500
1/28	4530	1/28	9400	1/28	10400	1/28	9620	1/28	6490	1/28	9920	1/28	12800	1/28	14200
1/29	5730	1/29	10800	1/29	13800	1/29	13800	1/29	11100	1/29	11300	1/29	12800	1/29	13200
1/30	4530	1/30	8800	1/30	11800	1/30	12100	1/30	10400	1/30	13600	1/30	15100	1/30	14300
1/31	3960	1/31	6400	1/31	8700	1/31	10100	1/31	7130	1/31	10700	1/31	14600	1/31	15000
2/1	3020	2/1	5350	2/1	6700	2/1	7340	2/1	5060	2/1	7560	2/1	10400	2/1	11700
2/2	2540	2/2	4350	2/2	5620	2/2	6500	2/2	3880	2/2	5850	2/2	8060	2/2	8640
2/3	2430	2/3	6700	2/3	4630	2/3	5720	2/3	3040	2/3	4750	2/3	6650	2/3	7130
2/4	3960	2/4	10400	2/4	9120	2/4	13200	2/4	2490	2/4	4040	2/4	5500	2/4	5940
2/5	18700	2/5	24400	2/5	32300	2/5	35700	2/5	2110	2/5	3260	2/5	4670	2/5	5090
2/6	18300	2/6	26800	2/6	30800	2/6	33100	2/6	1820	2/6	2830	2/6	4120	2/6	4420
2/7	11600	2/7	20700	2/7	25400	2/7	28500	2/7	1920	2/7	2650	2/7	3420	2/7	3860
2/8	7620	2/8	12200	2/8	17600	2/8	20200	2/8	2790	2/8	2870	2/8	3200	2/8	3390
2/9	5120	2/9	8200	2/9	10900	2/9	12100	2/9	3130	2/9	3510	2/9	3610	2/9	3620
2/10	3960	2/10	6100	2/10	7470	2/10	9140	2/10	2660	2/10	3560	2/10	4010	2/10	4100
2/11	3020	2/11	5100	2/11	6330	2/11	7340	2/11	2300	2/11	3220	2/11	4040	2/11	4220
2/12	2540	2/12	4350	2/12	5620	2/12	5720	2/12	2860	2/12	4620	2/12	4660	2/12	4590
2/13	4240	2/13	6100	2/13	5970	2/13	7780	2/13	4930	2/13	6050	2/13	6290	2/13	6250
2/14	17600	2/14	14200	2/14	13300	2/14	11100	2/14	5540	2/14	6950	2/14	7300	2/14	7170
2/15	17900	2/15	21200	2/15	20400	2/15	18500	2/15	5130	2/15	6880	2/15	7850	2/15	7940
2/16	17900	2/16	17200	2/16	22600	2/16	22400	2/16	5980	2/16	7050	2/16	7640	2/16	7660
2/17	11200	2/17	11500	2/17	14900	2/17	16700	2/17	7420	2/17	8190	2/17	7980	2/17	7890
2/18	7620	2/18	8200	2/18	10000	2/18	11600	2/18	6200	2/18	8070	2/18	8900	2/18	8740
2/19	5420	2/19	6400	2/19	8280	2/19	9140	2/19	5080	2/19	6950	2/19	8060	2/19	8310
2/20	4240	2/20	5100	2/20	6700	2/20	7340	2/20	4340	2/20	6200	2/20	7070	2/20	7300
2/21	3280	2/21	4350	2/21	5280	2/21	5720	2/21	10200	2/21	12200	2/21	9920	2/21	9080
2/22	2780	2/22	3850	2/22	4020	2/22	5720	2/22	20900	2/22	21900	2/22	19300	2/22	17500

# Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1930 Drought								1953 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
2/23	2110	2/23	3400	2/23	4020	2/23	4980	2/23	15900	2/23	23800	2/23	25600	2/23	23800
2/24	2660	2/24	3850	2/24	4020	2/24	4620	2/24	8900	2/24	15600	2/24	22400	2/24	23000
2/25	4820	2/25	4850	2/25	4630	2/25	4980	2/25	6060	2/25	9540	2/25	13600	2/25	14600
2/26	4530	2/26	5600	2/26	5280	2/26	9140	2/26	4590	2/26	7020	2/26	9030	2/26	9610
2/27	3960	2/27	5350	2/27	6330	2/27	6920	2/27	3680	2/27	5800	2/27	7030	2/27	7440
2/28	3020	2/28	4350	2/28	5970	2/28	6100	2/28	2970	2/28	4750	2/28	5760	2/28	6120
3/1	2540	3/1	3850	3/1	4630	3/1	5720	3/1	2420	3/1	3980	3/1	4730	3/1	5090
3/2	2430	3/2	3850	3/2	4020	3/2	4980	3/2	5160	3/2	9420	3/2	6640	3/2	6030
3/3	2320	3/3	3850	3/3	4630	3/3	4980	3/3	11800	3/3	20500	3/3	25900	3/3	27800
3/4	2010	3/4	3400	3/4	4020	3/4	4980	3/4	21200	3/4	31100	3/4	43400	3/4	48400
3/5	1820	3/5	3200	3/5	4020	3/5	4440	3/5	22800	3/5	33200	3/5	39000	3/5	44000
3/6	1640	3/6	3000	3/6	5280	3/6	4260	3/6	15500	3/6	28600	3/6	37300	3/6	39300
3/7	1730	3/7	4100	3/7	7080	3/7	4980	3/7	8800	3/7	16400	3/7	27300	3/7	29500
3/8	2900	3/8	7300	3/8	7470	3/8	8220	3/8	6090	3/8	9470	3/8	15300	3/8	17300
3/9	5120	3/9	7900	3/9	9550	3/9	10100	3/9	4800	3/9	7020	3/9	10300	3/9	11600
3/10	5730	3/10	8200	3/10	9120	3/10	9620	3/10	3760	3/10	5750	3/10	8100	3/10	9020
3/11	5730	3/11	8500	3/11	9120	3/11	9140	3/11	3080	3/11	4800	3/11	6460	3/11	7000
3/12	7620	3/12	9400	3/12	10000	3/12	10100	3/12	2640	3/12	4000	3/12	5590	3/12	6070
3/13	8270	3/13	10100	3/13	10900	3/13	10600	3/13	2420	3/13	3650	3/13	4860	3/13	5380
3/14	7620	3/14	9750	3/14	10900	3/14	10600	3/14	2260	3/14	3580	3/14	4830	3/14	6900
3/15	6040	3/15	8200	3/15	10400	3/15	10100	3/15	2880	3/15	6700	3/15	11300	3/15	13900
3/16	4530	3/16	6400	3/16	7870	3/16	8680	3/16	4240	3/16	7050	3/16	11600	3/16	13400
3/17	3410	3/17	5350	3/17	6700	3/17	7340	3/17	4140	3/17	6750	3/17	9350	3/17	10300
3/18	3680	3/18	4600	3/18	5970	3/18	6100	3/18	4140	3/18	7450	3/18	9670	3/18	10200
3/19	8600	3/19	6700	3/19	5280	3/19	5720	3/19	6320	3/19	8770	3/19	11800	3/19	12200
3/20	11600	3/20	11200	3/20	8700	3/20	8220	3/20	7190	3/20	9580	3/20	11500	3/20	11600
3/21	9590	3/21	11500	3/21	11800	3/21	11600	3/21	5810	3/21	8550	3/21	11100	3/21	11600
3/22	6980	3/22	9400	3/22	10900	3/22	11100	3/22	4560	3/22	6880	3/22	9030	3/22	9810
3/23	5120	3/23	7300	3/23	9120	3/23	9620	3/23	3780	3/23	5720	3/23	7760	3/23	8080
3/24	3960	3/24	5600	3/24	7080	3/24	7340	3/24	3780	3/24	5180	3/24	6600	3/24	7220
3/25	4240	3/25	5100	3/25	5970	3/25	5720	3/25	5950	3/25	5680	3/25	6410	3/25	6560
3/26	5730	3/26	6700	3/26	6330	3/26	5720	3/26	7750	3/26	7950	3/26	7670	3/26	7350
3/27	5120	3/27	7600	3/27	7470	3/27	7340	3/27	6610	3/27	8430	3/27	9580	3/27	9260
3/28	3960	3/28	6100	3/28	7470	3/28	7340	3/28	5240	3/28	7020	3/28	8540	3/28	8830
3/29	3410	3/29	5350	3/29	6330	3/29	6500	3/29	4290	3/29	5900	3/29	7010	3/29	7390
3/30	3020	3/30	4850	3/30	5280	3/30	5720	3/30	3550	3/30	5000	3/30	5960	3/30	6290
3/31	2540	3/31	4350	3/31	4630	3/31	5340	3/31	3110	3/31	4310	3/31	5210	3/31	5590
4/1	2110	4/1	3400	4/1	4020	4/1	4980	4/1	3360	4/1	4850	4/1	5210	4/1	5640
4/2	1820	4/2	3000	4/2	3880	4/2	4440	4/2	3900	4/2	4950	4/2	5820	4/2	5980
4/3	1820	4/3	3200	4/3	3590	4/3	3910	4/3	3480	4/3	4880	4/3	5700	4/3	5900
4/4	2320	4/4	3850	4/4	3730	4/4	4260	4/4	2970	4/4	4260	4/4	5270	4/4	5550
4/5	4240	4/5	4350	4/5	4020	4/5	4620	4/5	2530	4/5	3710	4/5	4490	4/5	4750
4/6	3960	4/6	4850	4/6	4950	4/6	5340	4/6	2280	4/6	3710	4/6	4280	4/6	5260
4/7	3960	4/7	5100	4/7	5280	4/7	5340	4/7	2620	4/7	6820	4/7	7380	4/7	7570
4/8	3280	4/8	4850	4/8	5280	4/8	5340	4/8	3660	4/8	6350	4/8	8940	4/8	9260
4/9	2660	4/9	3850	4/9	4630	4/9	4980	4/9	4420	4/9	6420	4/9	8270	4/9	8740
4/10	2110	4/10	3400	4/10	4020	4/10	4440	4/10	4290	4/10	8010	4/10	9350	4/10	9220
4/11	1820	4/11	2620	4/11	3880	4/11	3910	4/11	4240	4/11	6780	4/11	9670	4/11	10200
4/12	1640	4/12	2440	4/12	3730	4/12	3740	4/12	4440	4/12	7300	4/12	9210	4/12	9220
4/13	1470	4/13	2260	4/13	3310	4/13	3050	4/13	4820	4/13	8400	4/13	11200	4/13	11100
4/14	1310	4/14	2080	4/14	2900	4/14	2880	4/14	4740	4/14	7620	4/14	10300	4/14	10500
4/15	1310	4/15	2080	4/15	2520	4/15	2880	4/15	4120	4/15	6580	4/15	9030	4/15	9260
4/16	1160	4/16	1920	4/16	2640	4/16	2710	4/16	3730	4/16	6280	4/16	8140	4/16	8500

# Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1930 Drought								1953 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
4/17	1100	4/17	1740	4/17	2640	4/17	2880	4/17	3480	4/17	5450	4/17	7250	4/17	7480
4/18	1030	4/18	1500	4/18	2640	4/18	2380	4/18	3110	4/18	7250	4/18	8040	4/18	9460
4/19	1030	4/19	1470	4/19	2390	4/19	2060	4/19	3480	4/19	8490	4/19	13800	4/19	14200
4/20	910	4/20	1320	4/20	1450	4/20	1750	4/20	4850	4/20	6820	4/20	10300	4/20	11100
4/21	800	4/21	1180	4/21	1450	4/21	1750	4/21	4620	4/21	6980	4/21	9120	4/21	9460
4/22	800	4/22	1080	4/22	1450	4/22	1600	4/22	3880	4/22	6120	4/22	8020	4/22	8400
4/23	690	4/23	1040	4/23	1670	4/23	1460	4/23	3270	4/23	5080	4/23	7050	4/23	7300
4/24	690	4/24	940	4/24	1450	4/24	1460	4/24	2790	4/24	4480	4/24	6030	4/24	6420
4/25	590	4/25	918	4/25	1340	4/25	1200	4/25	2450	4/25	3840	4/25	5030	4/25	5470
4/26	590	4/26	852	4/26	1020	4/26	1200	4/26	2170	4/26	3400	4/26	4420	4/26	4750
4/27	490	4/27	810	4/27	1120	4/27	1070	4/27	1960	4/27	3100	4/27	4010	4/27	4260
4/28	490	4/28	852	4/28	1020	4/28	955	4/28	1760	4/28	2870	4/28	3580	4/28	3820
4/29	540	4/29	750	4/29	1020	4/29	1070	4/29	1550	4/29	2710	4/29	3320	4/29	3470
4/30	490	4/30	730	4/30	1020	4/30	955	4/30	1430	4/30	2470	4/30	3170	4/30	3390
5/1	590	5/1	780	5/1	1020	5/1	955	5/1	1630	5/1	2420	5/1	2860	5/1	3130
5/2	540	5/2	790	5/2	1020	5/2	955	5/2	2640	5/2	2600	5/2	2780	5/2	2900
5/3	490	5/3	750	5/3	1020	5/3	955	5/3	2990	5/3	3620	5/3	3160	5/3	3130
5/4	400	5/4	730	5/4	1020	5/4	955	5/4	2550	5/4	3490	5/4	3710	5/4	3860
5/5	400	5/5	650	5/5	820	5/5	740	5/5	2510	5/5	4550	5/5	8020	5/5	8670
5/6	400	5/6	558	5/6	820	5/6	740	5/6	7480	5/6	6250	5/6	8190	5/6	9220
5/7	358	5/7	468	5/7	730	5/7	640	5/7	27600	5/7	17200	5/7	9800	5/7	8500
5/8	315	5/8	522	5/8	730	5/8	460	5/8	28200	5/8	29900	5/8	26000	5/8	22000
5/9	315	5/9	495	5/9	640	5/9	460	5/9	20200	5/9	29700	5/9	32500	5/9	30200
5/10	358	5/10	549	5/10	640	5/10	460	5/10	11500	5/10	20300	5/10	28300	5/10	28900
5/11	490	5/11	630	5/11	640	5/11	840	5/11	7330	5/11	11700	5/11	17600	5/11	19400
5/12	2010	5/12	1320	5/12	640	5/12	640	5/12	5080	5/12	7300	5/12	10900	5/12	11800
5/13	2900	5/13	3200	5/13	2020	5/13	1600	5/13	3850	5/13	6050	5/13	7720	5/13	8120
5/14	1920	5/14	3600	5/14	3730	5/14	3560	5/14	3290	5/14	5620	5/14	7260	5/14	7170
5/15	1820	5/15	2440	5/15	3730	5/15	4080	5/15	2970	5/15	7280	5/15	10500	5/15	10400
5/16	1820	5/16	2440	5/16	3040	5/16	3050	5/16	2880	5/16	6550	5/16	9770	5/16	11600
5/17	1640	5/17	2080	5/17	2640	5/17	2880	5/17	2840	5/17	7320	5/17	12800	5/17	18200
5/18	2320	5/18	4600	5/18	3170	5/18	3390	5/18	3380	5/18	10200	5/18	15400	5/18	17900
5/19	5120	5/19	9100	5/19	5970	5/19	5720	5/19	14300	5/19	17100	5/19	22600	5/19	21400
5/20	8270	5/20	8800	5/20	8280	5/20	7780	5/20	27600	5/20	27000	5/20	30700	5/20	29100
5/21	6980	5/21	8800	5/21	9120	5/21	8680	5/21	26800	5/21	31400	5/21	34300	5/21	32500
5/22	3960	5/22	6400	5/22	7870	5/22	8220	5/22	15200	5/22	25600	5/22	35000	5/22	34200
5/23	2430	5/23	3850	5/23	5280	5/23	6500	5/23	6580	5/23	13200	5/23	26100	5/23	28100
5/24	1640	5/24	2800	5/24	3730	5/24	4260	5/24	4190	5/24	6980	5/24	12900	5/24	15200
5/25	1240	5/25	2080	5/25	2770	5/25	3390	5/25	3110	5/25	5300	5/25	8540	5/25	9510
5/26	910	5/26	1500	5/26	2520	5/26	2380	5/26	2400	5/26	4140	5/26	7280	5/26	7660
5/27	745	5/27	1260	5/27	1450	5/27	1900	5/27	1800	5/27	3080	5/27	5090	5/27	5640
5/28	640	5/28	1010	5/28	1450	5/28	1320	5/28	1330	5/28	2440	5/28	4020	5/28	4380
5/29	490	5/29	852	5/29	1450	5/29	1200	5/29	1000	5/29	1960	5/29	3360	5/29	3620
5/30	445	5/30	710	5/30	820	5/30	955	5/30	892	5/30	1560	5/30	2960	5/30	3170
5/31	445	5/31	630	5/31	1020	5/31	840	5/31	815	5/31	1280	5/31	1850	5/31	2140
6/1	463	6/1	650	6/1	640	6/1	740	6/1	717	6/1	932	6/1	2300	6/1	2010
6/2	436	6/2	495	6/2	560	6/2	640	6/2	646	6/2	932	6/2	1700	6/2	1910
6/3	374	6/3	362	6/3	560	6/3	550	6/3	570	6/3	794	6/3	1450	6/3	1500
6/4	278	6/4	362	6/4	415	6/4	300	6/4	499	6/4	768	6/4	1340	6/4	1360
6/5	208	6/5	362	6/5	190	6/5	235	6/5	460	6/5	654	6/5	1240	6/5	1220
6/6	208	6/6	402	6/6	295	6/6	235	6/6	405	6/6	582	6/6	877	6/6	1030
6/7	208	6/7	330	6/7	350	6/7	460	6/7	920	6/7	1550	6/7	1560	6/7	1380
6/8	201	6/8	276	6/8	350	6/8	235	6/8	1160	6/8	2010	6/8	2260	6/8	2070

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1930 Drought								1953 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
6/9	214	6/9	262	6/9	240	6/9	170	6/9	892	6/9	1800	6/9	2500	6/9	2510
6/10	278	6/10	322	6/10	480	6/10	380	6/10	1120	6/10	1610	6/10	2240	6/10	2270
6/11	248	6/11	262	6/11	390	6/11	330	6/11	1100	6/11	2190	6/11	3720	6/11	3320
6/12	208	6/12	322	6/12	190	6/12	260	6/12	815	6/12	1900	6/12	3280	6/12	3700
6/13	160	6/13	234	6/13	42	6/13	235	6/13	729	6/13	1340	6/13	2360	6/13	2610
6/14	125	6/14	234	6/14	42	6/14	220	6/14	646	6/14	1030	6/14	1560	6/14	1760
6/15	104	6/15	234	6/15	50	6/15	140	6/15	549	6/15	876	6/15	1290	6/15	1300
6/16	101	6/16	164	6/16	38	6/16	125	6/16	528	6/16	5400	6/16	2360	6/16	1820
6/17	107	6/17	171	6/17	38	6/17	105	6/17	752	6/17	5720	6/17	9350	6/17	8400
6/18	98	6/18	157	6/18	105	6/18	50	6/18	717	6/18	2310	6/18	5260	6/18	5940
6/19	90	6/19	164	6/19	115	6/19	40	6/19	570	6/19	1180	6/19	2720	6/19	3010
6/20	88	6/20	150	6/20	160	6/20	30	6/20	460	6/20	974	6/20	1420	6/20	1700
6/21	107	6/21	192	6/21	170	6/21	40	6/21	405	6/21	820	6/21	1030	6/21	1050
6/22	160	6/22	192	6/22	160	6/22	75	6/22	362	6/22	862	6/22	1560	6/22	1300
6/23	160	6/23	164	6/23	150	6/23	100	6/23	330	6/23	606	6/23	1340	6/23	1300
6/24	135	6/24	192	6/24	100	6/24	125	6/24	275	6/24	515	6/24	1180	6/24	1150
6/25	130	6/25	290	6/25	150	6/25	75	6/25	233	6/25	471	6/25	1120	6/25	1220
6/26	101	6/26	262	6/26	160	6/26	100	6/26	198	6/26	380	6/26	565	6/26	650
6/27	98	6/27	234	6/27	115	6/27	140	6/27	291	6/27	420	6/27	673	6/27	650
6/28	88	6/28	234	6/28	220	6/28	200	6/28	440	6/28	820	6/28	870	6/28	764
6/29	82	6/29	150	6/29	210	6/29	210	6/29	1480	6/29	2240	6/29	2010	6/29	1850
6/30	78	6/30	80	6/30	160	6/30	250	6/30	1390	6/30	2780	6/30	3260	6/30	3200
7/1	80	7/1	108	7/1	105	7/1	150	7/1	1000	7/1	2310	7/1	3070	7/1	3240
7/2	78	7/2	108	7/2	50	7/2	120	7/2	866	7/2	1630	7/2	2240	7/2	2400
7/3	70	7/3	101	7/3	50	7/3	75	7/3	681	7/3	1340	7/3	1550	7/3	1700
7/4	68	7/4	101	7/4	70	7/4	70	7/4	549	7/4	1320	7/4	1370	7/4	1410
7/5	66	7/5	70	7/5	50	7/5	60	7/5	592	7/5	1610	7/5	1430	7/5	1380
7/6	55	7/6	75	7/6	48	7/6	35	7/6	693	7/6	1320	7/6	2450	7/6	2010
7/7	53	7/7	70	7/7	42	7/7	30	7/7	1080	7/7	2220	7/7	3060	7/7	2940
7/8	49	7/8	55	7/8	48	7/8	75	7/8	920	7/8	1900	7/8	2920	7/8	2860
7/9	46	7/9	65	7/9	240	7/9	225	7/9	975	7/9	1870	7/9	2430	7/9	2370
7/10	39	7/10	94	7/10	260	7/10	65	7/10	729	7/10	1470	7/10	2130	7/10	2040
7/11	39	7/11	94	7/11	50	7/11	55	7/11	581	7/11	960	7/11	1510	7/11	1550
7/12	31	7/12	75	7/12	50	7/12	35	7/12	469	7/12	755	7/12	908	7/12	903
7/13	32	7/13	70	7/13	350	7/13	130	7/13	379	7/13	559	7/13	1170	7/13	903
7/14	32	7/14	60	7/14	55	7/14	95	7/14	298	7/14	482	7/14	1060	7/14	987
7/15	26	7/15	60	7/15	45	7/15	30	7/15	226	7/15	410	7/15	914	7/15	882
7/16	17	7/16	70	7/16	80	7/16	30	7/16	172	7/16	320	7/16	846	7/16	802
7/17	13	7/17	55	7/17	90	7/17	55	7/17	140	7/17	280	7/17	604	7/17	764
7/18	10	7/18	70	7/18	180	7/18	95	7/18	160	7/18	274	7/18	722	7/18	882
7/19	15	7/19	60	7/19	160	7/19	150	7/19	146	7/19	274	7/19	640	7/19	903
7/20	26	7/20	55	7/20	105	7/20	220	7/20	173	7/20	256	7/20	751	7/20	632
7/21	33	7/21	55	7/21	105	7/21	110	7/21	160	7/21	250	7/21	596	7/21	650
7/22	49	7/22	50	7/22	140	7/22	110	7/22	240	7/22	594	7/22	635	7/22	614
7/23	53	7/23	50	7/23	180	7/23	200	7/23	314	7/23	848	7/23	1110	7/23	966
7/24	53	7/24	50	7/24	240	7/24	340	7/24	226	7/24	618	7/24	1040	7/24	1080
7/25	55	7/25	50	7/25	210	7/25	500	7/25	160	7/25	430	7/25	760	7/25	882
7/26	49	7/26	50	7/26	125	7/26	235	7/26	166	7/26	312	7/26	592	7/26	632
7/27	43	7/27	70	7/27	45	7/27	75	7/27	219	7/27	232	7/27	478	7/27	488
7/28	36	7/28	60	7/28	48	7/28	60	7/28	198	7/28	232	7/28	383	7/28	431
7/29	30	7/29	55	7/29	220	7/29	60	7/29	160	7/29	220	7/29	554	7/29	405
7/30	32	7/30	60	7/30	75	7/30	110	7/30	130	7/30	232	7/30	673	7/30	614
7/31	36	7/31	55	7/31	55	7/31	150	7/31	115	7/31	226	7/31	619	7/31	688

## Historical Drought Flows on the Kentucky River

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1930 Drought								1953 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
8/1	36	8/1	60	8/1	200	8/1	130	8/1	110	8/1	328	8/1	424	8/1	506
8/2	25	8/2	60	8/2	90	8/2	65	8/2	100	8/2	195	8/2	448	8/2	470
8/3	22	8/3	50	8/3	115	8/3	110	8/3	90	8/3	190	8/3	454	8/3	324
8/4	24	8/4	50	8/4	70	8/4	75	8/4	100	8/4	370	8/4	1010	8/4	3100
8/5	26	8/5	50	8/5	48	8/5	30	8/5	115	8/5	344	8/5	888	8/5	1180
8/6	28	8/6	50	8/6	48	8/6	95	8/6	130	8/6	304	8/6	830	8/6	882
8/7	32	8/7	60	8/7	415	8/7	170	8/7	110	8/7	205	8/7	592	8/7	688
8/8	66	8/8	60	8/8	220	8/8	600	8/8	100	8/8	200	8/8	528	8/8	578
8/9	72	8/9	65	8/9	50	8/9	300	8/9	85	8/9	200	8/9	324	8/9	353
8/10	72	8/10	75	8/10	90	8/10	200	8/10	80	8/10	205	8/10	440	8/10	332
8/11	72	8/11	70	8/11	100	8/11	150	8/11	80	8/11	190	8/11	484	8/11	418
8/12	68	8/12	70	8/12	140	8/12	150	8/12	75	8/12	170	8/12	548	8/12	524
8/13	51	8/13	60	8/13	210	8/13	125	8/13	75	8/13	170	8/13	452	8/13	431
8/14	46	8/14	75	8/14	280	8/14	160	8/14	70	8/14	170	8/14	412	8/14	418
8/15	55	8/15	70	8/15	160	8/15	260	8/15	55	8/15	150	8/15	564	8/15	418
8/16	62	8/16	55	8/16	125	8/16	200	8/16	45	8/16	138	8/16	326	8/16	431
8/17	68	8/17	60	8/17	55	8/17	175	8/17	50	8/17	127	8/17	195	8/17	211
8/18	66	8/18	55	8/18	40	8/18	150	8/18	55	8/18	115	8/18	346	8/18	204
8/19	62	8/19	55	8/19	38	8/19	100	8/19	55	8/19	100	8/19	340	8/19	324
8/20	60	8/20	50	8/20	200	8/20	200	8/20	50	8/20	100	8/20	278	8/20	300
8/21	57	8/21	45	8/21	125	8/21	120	8/21	50	8/21	100	8/21	249	8/21	197
8/22	55	8/22	50	8/22	40	8/22	160	8/22	50	8/22	103	8/22	244	8/22	239
8/23	55	8/23	50	8/23	115	8/23	110	8/23	45	8/23	115	8/23	174	8/23	190
8/24	51	8/24	50	8/24	190	8/24	90	8/24	40	8/24	121	8/24	275	8/24	142
8/25	51	8/25	50	8/25	350	8/25	50	8/25	35	8/25	118	8/25	277	8/25	253
8/26	47	8/26	50	8/26	50	8/26	500	8/26	30	8/26	112	8/26	254	8/26	260
8/27	46	8/27	45	8/27	15	8/27	50	8/27	30	8/27	106	8/27	192	8/27	204
8/28	39	8/28	40	8/28	30	8/28	15	8/28	27	8/28	100	8/28	203	8/28	166
8/29	24	8/29	40	8/29	125	8/29	15	8/29	23	8/29	98	8/29	200	8/29	197
8/30	14	8/30	40	8/30	300	8/30	15	8/30	22	8/30	95	8/30	169	8/30	166
8/31	10	8/31	40	8/31	325	8/31	45	8/31	21	8/31	85	8/31	202	8/31	120
9/1	9	9/1	40	9/1	150	9/1	95	9/1	20	9/1	70	9/1	264	9/1	197
9/2	9	9/2	40	9/2	75	9/2	70	9/2	19	9/2	70	9/2	377	9/2	276
9/3	9	9/3	45	9/3	40	9/3	35	9/3	18	9/3	70	9/3	592	9/3	405
9/4	9	9/4	40	9/4	55	9/4	105	9/4	18	9/4	70	9/4	602	9/4	688
9/5	9	9/5	35	9/5	35	9/5	85	9/5	40	9/5	90	9/5	284	9/5	431
9/6	9	9/6	40	9/6	70	9/6	85	9/6	50	9/6	90	9/6	198	9/6	232
9/7	9	9/7	40	9/7	150	9/7	150	9/7	60	9/7	95	9/7	231	9/7	190
9/8	9	9/8	35	9/8	105	9/8	120	9/8	65	9/8	82	9/8	206	9/8	218
9/9	9	9/9	40	9/9	55	9/9	30	9/9	65	9/9	90	9/9	204	9/9	211
9/10	9	9/10	35	9/10	50	9/10	15	9/10	65	9/10	90	9/10	218	9/10	225
9/11	9	9/11	35	9/11	70	9/11	15	9/11	60	9/11	90	9/11	215	9/11	225
9/12	9	9/12	45	9/12	40	9/12	60	9/12	55	9/12	85	9/12	283	9/12	197
9/13	9	9/13	50	9/13	35	9/13	55	9/13	35	9/13	85	9/13	236	9/13	300
9/14	9	9/14	40	9/14	35	9/14	95	9/14	26	9/14	78	9/14	266	9/14	239
9/15	9	9/15	40	9/15	40	9/15	85	9/15	25	9/15	75	9/15	230	9/15	284
9/16	9	9/16	40	9/16	30	9/16	85	9/16	23	9/16	75	9/16	182	9/16	232
9/17	9	9/17	40	9/17	30	9/17	55	9/17	25	9/17	70	9/17	172	9/17	184
9/18	9	9/18	35	9/18	75	9/18	35	9/18	33	9/18	65	9/18	204	9/18	211
9/19	9	9/19	35	9/19	70	9/19	30	9/19	30	9/19	65	9/19	212	9/19	232
9/20	9	9/20	30	9/20	30	9/20	25	9/20	25	9/20	65	9/20	185	9/20	246
9/21	9	9/21	30	9/21	125	9/21	50	9/21	24	9/21	65	9/21	162	9/21	160
9/22	9	9/22	30	9/22	125	9/22	85	9/22	23	9/22	70	9/22	207	9/22	148

## Historical Drought Flows on the Kentucky River

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1930 Drought								1953 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
9/23	9	9/23	30	9/23	160	9/23	95	9/23	25	9/23	55	9/23	208	9/23	190
9/24	9	9/24	30	9/24	325	9/24	200	9/24	24	9/24	45	9/24	278	9/24	232
9/25	9	9/25	45	9/25	225	9/25	320	9/25	26	9/25	45	9/25	235	9/25	292
9/26	9	9/26	45	9/26	180	9/26	300	9/26	30	9/26	50	9/26	236	9/26	260
9/27	9	9/27	40	9/27	50	9/27	150	9/27	30	9/27	45	9/27	224	9/27	260
9/28	9	9/28	35	9/28	100	9/28	85	9/28	28	9/28	40	9/28	185	9/28	225
9/29	9	9/29	35	9/29	75	9/29	75	9/29	24	9/29	35	9/29	184	9/29	218
9/30	9	9/30	35	9/30	75	9/30	50	9/30	22	9/30	35	9/30	165	9/30	184
10/1	14	10/1	30	10/1	192	10/1		10/1	25	10/1	45	10/1	188	10/1	184
10/2	14	10/2	30	10/2	153	10/2		10/2	25	10/2	50	10/2	230	10/2	225
10/3	14	10/3	30	10/3	186	10/3		10/3	25	10/3	50	10/3	194	10/3	268
10/4	14	10/4	30	10/4	192	10/4		10/4	25	10/4	50	10/4	184	10/4	239
10/5	14	10/5	30	10/5	25	10/5		10/5	25	10/5	45	10/5	182	10/5	239
10/6	14	10/6	30	10/6	275	10/6		10/6	24	10/6	40	10/6	159	10/6	225
10/7	14	10/7	15	10/7	169	10/7		10/7	23	10/7	40	10/7	135	10/7	178
10/8	14	10/8	15	10/8	186	10/8		10/8	22	10/8	35	10/8	156	10/8	160
10/9	14	10/9	15	10/9	61	10/9		10/9	21	10/9	35	10/9	156	10/9	178
10/10	14	10/10	15	10/10	414	10/10		10/10	20	10/10	35	10/10	163	10/10	204
10/11	14	10/11	15	10/11	25	10/11		10/11	20	10/11	30	10/11	132	10/11	190
10/12	14	10/12	15	10/12	206	10/12		10/12	20	10/12	35	10/12	131	10/12	130
10/13	14	10/13	15	10/13	192	10/13		10/13	20	10/13	35	10/13	147	10/13	115
10/14	14	10/14	15	10/14	153	10/14		10/14	20	10/14	35	10/14	151	10/14	125
10/15	14	10/15	15	10/15	192	10/15		10/15	20	10/15	35	10/15	143	10/15	130
10/16	6	10/16	10	10/16	206	10/16		10/16	24	10/16	40	10/16	165	10/16	136
10/17	6	10/17	10	10/17	136	10/17		10/17	25	10/17	40	10/17	161	10/17	184
10/18	6	10/18	10	10/18	181	10/18		10/18	25	10/18	40	10/18	131	10/18	166
10/19	6	10/19	10	10/19	153	10/19		10/19	25	10/19	40	10/19	145	10/19	136
10/20	6	10/20	10	10/20	192	10/20		10/20	24	10/20	40	10/20	170	10/20	160
10/21	6	10/21	10	10/21	331	10/21		10/21	23	10/21	35	10/21	170	10/21	218
10/22	6	10/22	10	10/22	206	10/22		10/22	22	10/22	35	10/22	166	10/22	218
10/23	6	10/23	10	10/23	636	10/23		10/23	22	10/23	35	10/23	140	10/23	218
10/24	6	10/24	10	10/24	25	10/24		10/24	21	10/24	35	10/24	132	10/24	172
10/25	6	10/25	10	10/25	317	10/25		10/25	21	10/25	35	10/25	139	10/25	160
10/26	6	10/26	20	10/26	275	10/26		10/26	21	10/26	35	10/26	143	10/26	148
10/27	6	10/27	20	10/27	261	10/27		10/27	20	10/27	35	10/27	199	10/27	232
10/28	6	10/28	20	10/28	81	10/28		10/28	20	10/28	40	10/28	160	10/28	253
10/29	6	10/29	20	10/29	289	10/29		10/29	20	10/29	55	10/29	172	10/29	218
10/30	6	10/30	20	10/30	358	10/30		10/30	20	10/30	50	10/30	154	10/30	239
10/31	6	10/31	20	10/31	275	10/31		10/31	20	10/31	45	10/31	149	10/31	204
11/1	7	11/1	40	11/1	181	11/1		11/1	25	11/1	50	11/1	170	11/1	211
11/2	7	11/2	40	11/2	219	11/2		11/2	25	11/2	60	11/2	146	11/2	211
11/3	7	11/3	40	11/3	136	11/3		11/3	25	11/3	60	11/3	131	11/3	190
11/4	7	11/4	40	11/4	78	11/4		11/4	25	11/4	60	11/4	172	11/4	166
11/5	7	11/5	40	11/5	275	11/5		11/5	25	11/5	55	11/5	167	11/5	232
11/6	7	11/6	40	11/6	303	11/6		11/6	24	11/6	50	11/6	141	11/6	218
11/7	7	11/7	40	11/7	125	11/7		11/7	23	11/7	50	11/7	149	11/7	190
11/8	7	11/8	40	11/8	261	11/8		11/8	22	11/8	50	11/8	155	11/8	211
11/9	7	11/9	40	11/9	108	11/9		11/9	21	11/9	45	11/9	142	11/9	184
11/10	7	11/10	40	11/10	289	11/10		11/10	18	11/10	45	11/10	160	11/10	197
11/11	7	11/11	50	11/11	317	11/11		11/11	15	11/11	40	11/11	151	11/11	178
11/12	7	11/12	50	11/12	233	11/12		11/12	14	11/12	40	11/12	131	11/12	136
11/13	7	11/13	50	11/13	414	11/13		11/13	14	11/13	35	11/13	158	11/13	120
11/14	7	11/14	50	11/14	219	11/14		11/14	14	11/14	35	11/14	155	11/14	154

**Historical Drought Flows on the Kentucky River**  
 (All data is daily mean flow, cubic feet per second,  
 as reported by the U.S. Geological Survey)

1930 Drought								1953 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
11/15	7	11/15	50	11/15	247	11/15		11/15	14	11/15	35	11/15	131	11/15	142
11/16	35	11/16	50	11/16	67	11/16		11/16	14	11/16	35	11/16	223	11/16	140
11/17	35	11/17	50	11/17	186	11/17		11/17	13	11/17	40	11/17	192	11/17	246
11/18	35	11/18	50	11/18	206	11/18		11/18	13	11/18	40	11/18	156	11/18	225
11/19	35	11/19	50	11/19	108	11/19		11/19	13	11/19	40	11/19	182	11/19	184
11/20	35	11/20	50	11/20	147	11/20		11/20	14	11/20	40	11/20	225	11/20	246
11/21	35	11/21	50	11/21	181	11/21		11/21	14	11/21	40	11/21	292	11/21	284
11/22	35	11/22	50	11/22	186	11/22		11/22	15	11/22	45	11/22	376	11/22	580
11/23	35	11/23	50	11/23	136	11/23		11/23	16	11/23	50	11/23	264	11/23	292
11/24	35	11/24	50	11/24	103	11/24		11/24	18	11/24	60	11/24	744	11/24	568
11/25	35	11/25	50	11/25	275	11/25		11/25	20	11/25	90	11/25	760	11/25	878
11/26	35	11/26	50	11/26	92	11/26		11/26	20	11/26	120	11/26	424	11/26	686
11/27	35	11/27	50	11/27	25	11/27		11/27	20	11/27	80	11/27	492	11/27	352
11/28	35	11/28	50	11/28	25	11/28		11/28	22	11/28	70	11/28	434	11/28	598
11/29	35	11/29	50	11/29	25	11/29		11/29	25	11/29	60	11/29	267	11/29	423
11/30	35	11/30	50	11/30	136	11/30		11/30	25	11/30	60	11/30	394	11/30	264
12/1	35	12/1	70	12/1	186	12/1		12/1	27	12/1	55	12/1	733	12/1	699
12/2	35	12/2	70	12/2	81	12/2		12/2	28	12/2	50	12/2	784	12/2	788
12/3	35	12/3	70	12/3	303	12/3		12/3	30	12/3	50	12/3	845	12/3	966
12/4	35	12/4	70	12/4	275	12/4		12/4	30	12/4	45	12/4	892	12/4	878
12/5	35	12/5	70	12/5	331	12/5		12/5	27	12/5	45	12/5	476	12/5	706
12/6	35	12/6	70	12/6	25	12/6		12/6	25	12/6	45	12/6	172	12/6	268
12/7	35	12/7	100	12/7	25	12/7		12/7	23	12/7	45	12/7	473	12/7	351
12/8	33	12/8	150	12/8	303	12/8		12/8	21	12/8	50	12/8	768	12/8	816
12/9	208	12/9	120	12/9	25	12/9		12/9	19	12/9	50	12/9	871	12/9	849
12/10	240	12/10	100	12/10	25	12/10		12/10	20	12/10	55	12/10	926	12/10	1010
12/11	175	12/11	94	12/11	108	12/11		12/11	21	12/11	60	12/11	571	12/11	719
12/12	240	12/12	185	12/12	103	12/12		12/12	21	12/12	65	12/12	460	12/12	610
12/13	175	12/13	180	12/13	136	12/13		12/13	22	12/13	75	12/13	151	12/13	253
12/14	125	12/14	178	12/14	25	12/14		12/14	23	12/14	80	12/14	354	12/14	902
12/15	125	12/15	136	12/15	358	12/15		12/15	25	12/15	95	12/15	615	12/15	707
12/16	125	12/16	220	12/16	344	12/16		12/16	30	12/16	80	12/16	527	12/16	552
12/17	95	12/17	206	12/17	233	12/17		12/17	35	12/17	65	12/17	614	12/17	639
12/18	95	12/18	178	12/18	414	12/18		12/18	45	12/18	60	12/18	716	12/18	754
12/19	95	12/19	206	12/19	469	12/19		12/19	50	12/19	65	12/19	476	12/19	610
12/20	95	12/20	199	12/20	692	12/20		12/20	55	12/20	70	12/20	276	12/20	360
12/21	95	12/21	136	12/21	303	12/21		12/21	55	12/21	75	12/21	402	12/21	278
12/22	95	12/22	136	12/22	636	12/22		12/22	60	12/22	90	12/22	764	12/22	726
12/23	95	12/23	108	12/23	386	12/23		12/23	60	12/23	100	12/23	636	12/23	672
12/24	95	12/24	136	12/24	275	12/24		12/24	65	12/24	110	12/24	467	12/24	597
12/25	95	12/25	150	12/25	25	12/25		12/25	70	12/25	120	12/25	147	12/25	209
12/26	95	12/26	206	12/26	192	12/26		12/26	80	12/26	130	12/26	143	12/26	160
12/27	125	12/27	220	12/27	181	12/27		12/27	95	12/27	135	12/27	160	12/27	150
12/28	125	12/28	192	12/28	136	12/28		12/28	110	12/28	140	12/28	210	12/28	200
12/29	125	12/29	206	12/29	169	12/29		12/29	115	12/29	150	12/29	247	12/29	253
12/30	208	12/30	220	12/30	275	12/30		12/30	120	12/30	155	12/30	222	12/30	253
12/31	240	12/31	234	12/31	147	12/31		12/31	125	12/31	165	12/31	284	12/31	284

# Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1986 Drought								1988 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
1/1	1110	1/1	1400	1/1	1680	1/1	1730	1/1	4130	1/1	6650	1/1	7390	1/1	8190
1/2	1130	1/2	1350	1/2	1580	1/2	1640	1/2	5070	1/2	6690	1/2	7820	1/2	8680
1/3	1220	1/3	1360	1/3	1450	1/3	1540	1/3	4480	1/3	6530	1/3	7300	1/3	8100
1/4	1140	1/4	1380	1/4	1500	1/4	1570	1/4	3500	1/4	5360	1/4	6470	1/4	7370
1/5	1070	1/5	1320	1/5	1480	1/5	1550	1/5	2550	1/5	4040	1/5	5240	1/5	6270
1/6	1010	1/6	1230	1/6	1490	1/6	1510	1/6	1910	1/6	2810	1/6	3990	1/6	5310
1/7	960	1/7	1140	1/7	1410	1/7	1450	1/7	1330	1/7	2110	1/7	3090	1/7	4000
1/8	869	1/8	1050	1/8	1240	1/8	1400	1/8	1110	1/8	1700	1/8	2520	1/8	3100
1/9	820	1/9	922	1/9	1360	1/9	1280	1/9	942	1/9	1480	1/9	2190	1/9	2500
1/10	780	1/10	784	1/10	974	1/10	1210	1/10	863	1/10	1280	1/10	1790	1/10	2200
1/11	760	1/11	743	1/11	805	1/11	1050	1/11	810	1/11	1170	1/11	1540	1/11	1990
1/12	740	1/12	730	1/12	871	1/12	995	1/12	790	1/12	1140	1/12	1490	1/12	1750
1/13	700	1/13	752	1/13	1150	1/13	945	1/13	740	1/13	1140	1/13	1420	1/13	1490
1/14	691	1/14	819	1/14	1090	1/14	957	1/14	700	1/14	1100	1/14	1520	1/14	1500
1/15	683	1/15	788	1/15	1150	1/15	975	1/15	664	1/15	967	1/15	1400	1/15	1500
1/16	678	1/16	787	1/16	1110	1/16	951	1/16	654	1/16	892	1/16	1250	1/16	1270
1/17	679	1/17	786	1/17	1130	1/17	974	1/17	671	1/17	964	1/17	1280	1/17	1230
1/18	728	1/18	825	1/18	1160	1/18	1020	1/18	877	1/18	1740	1/18	1960	1/18	2140
1/19	1350	1/19	1020	1/19	1250	1/19	1120	1/19	3500	1/19	5540	1/19	3840	1/19	8010
1/20	3950	1/20	2790	1/20	1520	1/20	1480	1/20	19500	1/20	25600	1/20	28500	1/20	28100
1/21	4080	1/21	4940	1/21	3440	1/21	2830	1/21	18300	1/21	28100	1/21	34600	1/21	34700
1/22	3690	1/22	4680	1/22	4960	1/22	5000	1/22	8770	1/22	18300	1/22	29500	1/22	30900
1/23	3570	1/23	4430	1/23	4720	1/23	4920	1/23	5780	1/23	9910	1/23	16000	1/23	17500
1/24	3380	1/24	4140	1/24	4410	1/24	4580	1/24	4590	1/24	7020	1/24	10200	1/24	10900
1/25	3200	1/25	3870	1/25	4210	1/25	4330	1/25	3920	1/25	5680	1/25	7400	1/25	8220
1/26	3160	1/26	3670	1/26	3950	1/26	4030	1/26	3620	1/26	4840	1/26	6360	1/26	7200
1/27	3210	1/27	3640	1/27	4100	1/27	1050	1/27	3110	1/27	4280	1/27	5490	1/27	6540
1/28	3000	1/28	3420	1/28	3900	1/28	3860	1/28	2110	1/28	3370	1/28	4920	1/28	5860
1/29	2900	1/29	2980	1/29	3470	1/29	3680	1/29	1510	1/29	2410	1/29	3820	1/29	4420
1/30	2800	1/30	3000	1/30	3080	1/30	3260	1/30	1310	1/30	1940	1/30	3100	1/30	3510
1/31	2700	1/31	3070	1/31	3050	1/31	3160	1/31	1230	1/31	1720	1/31	2640	1/31	3010
2/1	2630	2/1	3160	2/1	3160	2/1	3130	2/1	1150	2/1	1670	2/1	2540	2/1	4220
2/2	2820	2/2	3240	2/2	3600	2/2	3400	2/2	1170	2/2	5880	2/2	7760	2/2	15400
2/3	6600	2/3	8630	2/3	8300	2/3	7060	2/3	2220	2/3	7590	2/3	18500	2/3	19900
2/4	17000	2/4	19500	2/4	21600	2/4	19500	2/4	3780	2/4	7450	2/4	12800	2/4	14600
2/5	16000	2/5	21300	2/5	25200	2/5	26200	2/5	6850	2/5	8860	2/5	12100	2/5	13000
2/6	13100	2/6	17700	2/6	22600	2/6	23500	2/6	6990	2/6	10000	2/6	12600	2/6	12800
2/7	14700	2/7	20000	2/7	23100	2/7	22800	2/7	5310	2/7	8280	2/7	11800	2/7	12300
2/8	15400	2/8	19600	2/8	23600	2/8	22700	2/8	3800	2/8	6350	2/8	9360	2/8	10300
2/9	12000	2/9	16700	2/9	20900	2/9	20500	2/9	3280	2/9	4860	2/9	6760	2/9	7720
2/10	8970	2/10	12600	2/10	17300	2/10	17000	2/10	2690	2/10	4150	2/10	5480	2/10	6330
2/11	6740	2/11	9830	2/11	14000	2/11	14200	2/11	2200	2/11	3360	2/11	4800	2/11	5500
2/12	5240	2/12	7580	2/12	11800	2/12	12100	2/12	1980	2/12	2940	2/12	4230	2/12	4990
2/13	4110	2/13	6110	2/13	9570	2/13	10200	2/13	1710	2/13	2610	2/13	3640	2/13	4440
2/14	3540	2/14	5190	2/14	7450	2/14	8220	2/14	1450	2/14	2240	2/14	3050	2/14	4070
2/15	3170	2/15	4800	2/15	6190	2/15	7020	2/15	1350	2/15	2220	2/15	3040	2/15	4610
2/16	3210	2/16	4860	2/16	5530	2/16	6070	2/16	1310	2/16	2320	2/16	3740	2/16	4740
2/17	13600	2/17	13900	2/17	14700	2/17	13200	2/17	1300	2/17	2130	2/17	3610	2/17	4460
2/18	34200	2/18	30700	2/18	32200	2/18	28400	2/18	1350	2/18	2020	2/18	3260	2/18	4000
2/19	32900	2/19	38800	2/19	38700	2/19	41400	2/19	1270	2/19	2050	2/19	3030	2/19	3640
2/20	24300	2/20	36000	2/20	38700	2/20	44000	2/20	1290	2/20	2450	2/20	3260	2/20	3960
2/21	19000	2/21	27300	2/21	34200	2/21	38700	2/21	1440	2/21	2470	2/21	3670	2/21	4320
2/22	12900	2/22	18400	2/22	26000	2/22	27000	2/22	1430	2/22	2340	2/22	3730	2/22	4370

# Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
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1986 Drought								1988 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
2/23	9950	2/23	13300	2/23	18600	2/23	18600	2/23	1400	2/23	2280	2/23	3370	2/23	3980
2/24	8490	2/24	10800	2/24	14900	2/24	14800	2/24	1570	2/24	2630	2/24	3720	2/24	4010
2/25	8150	2/25	9580	2/25	12700	2/25	12800	2/25	1900	2/25	2710	2/25	4160	2/25	4730
2/26	7550	2/26	9000	2/26	10800	2/26	10900	2/26	2000	2/26	2810	2/26	3960	2/26	4470
2/27	7070	2/27	8410	2/27	9790	2/27	10200	2/27	2020	2/27	2790	2/27	3770	2/27	4270
2/28	7010	2/28	8030	2/28	9130	2/28	9380	2/28	1970	2/28	2730	2/28	3160	2/28	3780
3/1	6330	3/1	7680	3/1	8580	3/1	8860	3/1	1620	3/1	2310	3/1	3190	3/1	3630
3/2	5410	3/2	6870	3/2	7910	3/2	8320	3/2	1380	3/2	2040	3/2	2880	3/2	3230
3/3	4820	3/3	5970	3/3	7240	3/3	7600	3/3	1290	3/3	1860	3/3	2830	3/3	3300
3/4	4210	3/4	5440	3/4	6780	3/4	7210	3/4	1860	3/4	7090	3/4	5550	3/4	7160
3/5	3920	3/5	4990	3/5	5960	3/5	6300	3/5	2800	3/5	10200	3/5	16400	3/5	15900
3/6	3360	3/6	4480	3/6	5400	3/6	5660	3/6	2590	3/6	7010	3/6	11200	3/6	13000
3/7	3120	3/7	3970	3/7	5050	3/7	5210	3/7	2250	3/7	5150	3/7	7910	3/7	9500
3/8	2810	3/8	3680	3/8	4390	3/8	4710	3/8	1990	3/8	4090	3/8	5960	3/8	7370
3/9	2520	3/9	3280	3/9	3910	3/9	4010	3/9	1810	3/9	3430	3/9	5060	3/9	6370
3/10	2340	3/10	3010	3/10	3810	3/10	3720	3/10	1800	3/10	3110	3/10	4510	3/10	5560
3/11	2370	3/11	3190	3/11	3950	3/11	4000	3/11	1850	3/11	2950	3/11	3960	3/11	4780
3/12	2580	3/12	3540	3/12	4000	3/12	6160	3/12	1810	3/12	2780	3/12	3650	3/12	4370
3/13	3450	3/13	12100	3/13	16500	3/13	20300	3/13	1900	3/13	3120	3/13	3650	3/13	4470
3/14	3890	3/14	10800	3/14	21800	3/14	23000	3/14	1980	3/14	3180	3/14	3960	3/14	4550
3/15	5590	3/15	9170	3/15	14900	3/15	15500	3/15	1990	3/15	3030	3/15	4170	3/15	4830
3/16	10100	3/16	10900	3/16	13500	3/16	13400	3/16	1900	3/16	2830	3/16	4200	3/16	4950
3/17	11200	3/17	13400	3/17	15100	3/17	14300	3/17	1750	3/17	2590	3/17	3540	3/17	4310
3/18	8730	3/18	11900	3/18	14700	3/18	14300	3/18	1630	3/18	2380	3/18	3160	3/18	3810
3/19	6680	3/19	9920	3/19	13700	3/19	14400	3/19	1580	3/19	2310	3/19	2810	3/19	3470
3/20	5030	3/20	7580	3/20	12700	3/20	13300	3/20	1550	3/20	2250	3/20	2610	3/20	3110
3/21	4230	3/21	5960	3/21	9770	3/21	10700	3/21	1470	3/21	2130	3/21	2570	3/21	3020
3/22	3320	3/22	4970	3/22	6580	3/22	7560	3/22	1340	3/22	1900	3/22	2390	3/22	2850
3/23	2870	3/23	4040	3/23	5320	3/23	5960	3/23	1130	3/23	1800	3/23	2050	3/23	2440
3/24	2680	3/24	3600	3/24	4710	3/24	5100	3/24	1030	3/24	1700	3/24	2180	3/24	2600
3/25	2320	3/25	3280	3/25	4370	3/25	4690	3/25	974	3/25	1600	3/25	2080	3/25	2660
3/26	2120	3/26	2890	3/26	4060	3/26	4280	3/26	1080	3/26	1550	3/26	2000	3/26	3130
3/27	2130	3/27	2730	3/27	3780	3/27	4060	3/27	2210	3/27	1800	3/27	1930	3/27	2510
3/28	2050	3/28	2720	3/28	3200	3/28	3450	3/28	2700	3/28	2600	3/28	2370	3/28	2770
3/29	1800	3/29	2530	3/29	2880	3/29	2940	3/29	2340	3/29	3000	3/29	3200	3/29	3710
3/30	1610	3/30	2300	3/30	2760	3/30	2780	3/30	2070	3/30	2620	3/30	3240	3/30	3950
3/31	1420	3/31	2080	3/31	2810	3/31	2610	3/31	1860	3/31	2450	3/31	2980	3/31	3660
4/1	1330	4/1	1880	4/1	2690	4/1	2790	4/1	1890	4/1	2750	4/1	2880	4/1	3650
4/2	1280	4/2	1770	4/2	2500	4/2	2340	4/2	2110	4/2	3160	4/2	3190	4/2	4250
4/3	1210	4/3	1690	4/3	2590	4/3	2510	4/3	2130	4/3	3610	4/3	4010	4/3	6300
4/4	1160	4/4	1610	4/4	2500	4/4	2450	4/4	2190	4/4	5670	4/4	7820	4/4	9820
4/5	1090	4/5	1540	4/5	2110	4/5	2180	4/5	2190	4/5	4500	4/5	8390	4/5	10200
4/6	1030	4/6	1460	4/6	1810	4/6	1780	4/6	2210	4/6	4410	4/6	6830	4/6	9000
4/7	1010	4/7	1400	4/7	1600	4/7	1610	4/7	5800	4/7	9280	4/7	9840	4/7	11700
4/8	973	4/8	1250	4/8	1680	4/8	1630	4/8	18600	4/8	19400	4/8	16100	4/8	14800
4/9	912	4/9	1200	4/9	1560	4/9	1520	4/9	17600	4/9	23700	4/9	25200	4/9	22500
4/10	863	4/10	1150	4/10	1460	4/10	1430	4/10	11700	4/10	18000	4/10	23300	4/10	23500
4/11	839	4/11	1100	4/11	1350	4/11	1390	4/11	8460	4/11	12800	4/11	16900	4/11	17200
4/12	808	4/12	1050	4/12	1250	4/12	1320	4/12	5880	4/12	9470	4/12	12800	4/12	13500
4/13	777	4/13	1000	4/13	1150	4/13	1200	4/13	4480	4/13	6760	4/13	9250	4/13	10700
4/14	754	4/14	950	4/14	1100	4/14	1080	4/14	3670	4/14	5330	4/14	6650	4/14	7840
4/15	743	4/15	900	4/15	1050	4/15	1100	4/15	3160	4/15	4340	4/15	5210	4/15	6450
4/16	720	4/16	860	4/16	1180	4/16	1240	4/16	2550	4/16	3600	4/16	4420	4/16	5320

# Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1986 Drought								1988 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
4/17	704	4/17	852	4/17	1220	4/17	1300	4/17	2030	4/17	2880	4/17	3600	4/17	4510
4/18	702	4/18	849	4/18	1150	4/18	1130	4/18	1780	4/18	2620	4/18	3050	4/18	3820
4/19	695	4/19	818	4/19	1050	4/19	1100	4/19	2270	4/19	3720	4/19	3400	4/19	4000
4/20	666	4/20	819	4/20	1100	4/20	1180	4/20	2440	4/20	3920	4/20	3950	4/20	4650
4/21	738	4/21	1020	4/21	1200	4/21	1270	4/21	2270	4/21	3580	4/21	3770	4/21	4560
4/22	818	4/22	1300	4/22	1300	4/22	1460	4/22	2120	4/22	3250	4/22	3410	4/22	4140
4/23	911	4/23	1380	4/23	1450	4/23	1530	4/23	1990	4/23	2990	4/23	3090	4/23	3810
4/24	859	4/24	1310	4/24	1450	4/24	1510	4/24	1850	4/24	2790	4/24	2800	4/24	3490
4/25	752	4/25	1200	4/25	1600	4/25	1630	4/25	1730	4/25	2610	4/25	2660	4/25	3270
4/26	684	4/26	1070	4/26	1300	4/26	1320	4/26	1870	4/26	2460	4/26	2410	4/26	3100
4/27	644	4/27	997	4/27	1200	4/27	1240	4/27	1660	4/27	2360	4/27	2240	4/27	2870
4/28	635	4/28	944	4/28	1070	4/28	1140	4/28	1490	4/28	2120	4/28	2100	4/28	2790
4/29	666	4/29	955	4/29	1000	4/29	1080	4/29	1350	4/29	1900	4/29	1970	4/29	2640
4/30	679	4/30	997	4/30	1050	4/30	1090	4/30	1250	4/30	1720	4/30	1690	4/30	2400
5/1	678	5/1	986	5/1	1070	5/1	1120	5/1	1210	5/1	1580	5/1	1480	5/1	2170
5/2	638	5/2	958	5/2	980	5/2	1060	5/2	1130	5/2	1460	5/2	1470	5/2	2010
5/3	570	5/3	901	5/3	920	5/3	1020	5/3	1060	5/3	1360	5/3	1410	5/3	1950
5/4	530	5/4	826	5/4	840	5/4	895	5/4	1200	5/4	1600	5/4	1410	5/4	1940
5/5	501	5/5	759	5/5	900	5/5	948	5/5	4280	5/5	4770	5/5	2360	5/5	2450
5/6	483	5/6	724	5/6	930	5/6	973	5/6	7240	5/6	7540	5/6	5400	5/6	5340
5/7	458	5/7	673	5/7	930	5/7	962	5/7	5510	5/7	7730	5/7	7960	5/7	8030
5/8	456	5/8	695	5/8	810	5/8	860	5/8	3960	5/8	5830	5/8	7020	5/8	7880
5/9	450	5/9	709	5/9	720	5/9	772	5/9	3110	5/9	4480	5/9	5300	5/9	6290
5/10	438	5/10	703	5/10	680	5/10	759	5/10	2660	5/10	3720	5/10	4220	5/10	5140
5/11	405	5/11	655	5/11	800	5/11	816	5/11	2600	5/11	3280	5/11	3530	5/11	4160
5/12	408	5/12	613	5/12	700	5/12	773	5/12	2270	5/12	3030	5/12	3080	5/12	3500
5/13	986	5/13	670	5/13	690	5/13	714	5/13	1950	5/13	2610	5/13	2890	5/13	3310
5/14	958	5/14	1180	5/14	1050	5/14	1030	5/14	1680	5/14	2290	5/14	2560	5/14	3160
5/15	2020	5/15	1810	5/15	1500	5/15	1270	5/15	1420	5/15	2010	5/15	2250	5/15	2680
5/16	2470	5/16	2520	5/16	2000	5/16	1890	5/16	1260	5/16	1750	5/16	1860	5/16	2140
5/17	2190	5/17	2610	5/17	2500	5/17	2370	5/17	1040	5/17	1570	5/17	1640	5/17	1960
5/18	1520	5/18	2090	5/18	2700	5/18	2600	5/18	1380	5/18	1430	5/18	1510	5/18	1730
5/19	1210	5/19	1590	5/19	2000	5/19	2240	5/19	1840	5/19	1780	5/19	1540	5/19	1720
5/20	1100	5/20	1330	5/20	1600	5/20	1770	5/20	1350	5/20	1930	5/20	1840	5/20	1880
5/21	927	5/21	1220	5/21	1400	5/21	1480	5/21	1130	5/21	1580	5/21	1690	5/21	2010
5/22	839	5/22	1070	5/22	1200	5/22	1280	5/22	947	5/22	1310	5/22	1430	5/22	1690
5/23	737	5/23	964	5/23	1100	5/23	1120	5/23	782	5/23	1190	5/23	1300	5/23	1500
5/24	620	5/24	838	5/24	1000	5/24	1060	5/24	709	5/24	1100	5/24	1280	5/24	1380
5/25	547	5/25	724	5/25	920	5/25	946	5/25	1100	5/25	1310	5/25	1190	5/25	1330
5/26	543	5/26	672	5/26	1000	5/26	1030	5/26	1180	5/26	1510	5/26	1360	5/26	1450
5/27	850	5/27	890	5/27	1200	5/27	1260	5/27	1300	5/27	1440	5/27	1520	5/27	1670
5/28	1220	5/28	2270	5/28	1400	5/28	1440	5/28	1110	5/28	1350	5/28	1420	5/28	1660
5/29	1170	5/29	2350	5/29	2000	5/29	2180	5/29	811	5/29	1100	5/29	1320	5/29	1510
5/30	1250	5/30	1840	5/30	2700	5/30	2930	5/30	672	5/30	844	5/30	1150	5/30	1330
5/31	1040	5/31	1550	5/31	2300	5/31	2420	5/31	595	5/31	690	5/31	919	5/31	978
6/1	802	6/1	1190	6/1	1550	6/1	1790	6/1	515	6/1	587	6/1	896	6/1	952
6/2	639	6/2	924	6/2	1280	6/2	1490	6/2	451	6/2	505	6/2	767	6/2	782
6/3	539	6/3	751	6/3	1000	6/3	1150	6/3	411	6/3	426	6/3	660	6/3	760
6/4	500	6/4	652	6/4	860	6/4	938	6/4	397	6/4	385	6/4	479	6/4	646
6/5	449	6/5	600	6/5	780	6/5	883	6/5	388	6/5	359	6/5	440	6/5	560
6/6	468	6/6	547	6/6	901	6/6	960	6/6	359	6/6	342	6/6	480	6/6	504
6/7	449	6/7	523	6/7	883	6/7	1130	6/7	330	6/7	326	6/7	380	6/7	498
6/8	758	6/8	593	6/8	866	6/8	1170	6/8	304	6/8	302	6/8	693	6/8	506

# Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,

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1986 Drought								1988 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
6/9	1360	6/9	1360	6/9	1110	6/9	1050	6/9	278	6/9	287	6/9	514	6/9	778
6/10	1340	6/10	2110	6/10	1740	6/10	1650	6/10	277	6/10	278	6/10	325	6/10	458
6/11	1380	6/11	2160	6/11	2140	6/11	2120	6/11	292	6/11	258	6/11	357	6/11	426
6/12	1290	6/12	1840	6/12	2170	6/12	2100	6/12	336	6/12	260	6/12	370	6/12	434
6/13	1040	6/13	1560	6/13	1720	6/13	1860	6/13	363	6/13	273	6/13	290	6/13	376
6/14	849	6/14	1210	6/14	1940	6/14	1890	6/14	339	6/14	291	6/14	298	6/14	341
6/15	664	6/15	919	6/15	1410	6/15	1480	6/15	284	6/15	295	6/15	325	6/15	347
6/16	531	6/16	704	6/16	900	6/16	1150	6/16	242	6/16	275	6/16	329	6/16	369
6/17	436	6/17	564	6/17	800	6/17	887	6/17	210	6/17	260	6/17	352	6/17	398
6/18	374	6/18	451	6/18	1010	6/18	810	6/18	178	6/18	228	6/18	330	6/18	390
6/19	323	6/19	367	6/19	746	6/19	618	6/19	164	6/19	202	6/19	303	6/19	353
6/20	290	6/20	305	6/20	671	6/20	530	6/20	160	6/20	196	6/20	273	6/20	333
6/21	264	6/21	254	6/21	698	6/21	650	6/21	160	6/21	198	6/21	228	6/21	298
6/22	224	6/22	222	6/22	516	6/22	478	6/22	153	6/22	188	6/22	207	6/22	277
6/23	198	6/23	203	6/23	430	6/23	358	6/23	134	6/23	180	6/23	217	6/23	256
6/24	179	6/24	193	6/24	343	6/24	319	6/24	115	6/24	170	6/24	179	6/24	268
6/25	167	6/25	183	6/25	298	6/25	266	6/25	94	6/25	154	6/25	222	6/25	256
6/26	146	6/26	177	6/26	240	6/26	241	6/26	106	6/26	147	6/26	158	6/26	223
6/27	134	6/27	173	6/27	213	6/27	196	6/27	110	6/27	141	6/27	175	6/27	207
6/28	121	6/28	160	6/28	264	6/28	232	6/28	89	6/28	144	6/28	191	6/28	226
6/29	116	6/29	152	6/29	204	6/29	215	6/29	83	6/29	142	6/29	200	6/29	171
6/30	117	6/30	146	6/30	182	6/30	199	6/30	82	6/30	144	6/30	209	6/30	124
7/1	143	7/1	148	7/1	198	7/1	187	7/1	68	7/1	138	7/1	128	7/1	155
7/2	274	7/2	182	7/2	299	7/2	431	7/2	68	7/2	131	7/2	136	7/2	127
7/3	351	7/3	340	7/3	336	7/3	376	7/3	71	7/3	124	7/3	170	7/3	169
7/4	361	7/4	443	7/4	478	7/4	409	7/4	61	7/4	121	7/4	106	7/4	161
7/5	284	7/5	374	7/5	502	7/5	519	7/5	62	7/5	127	7/5	171	7/5	114
7/6	218	7/6	291	7/6	423	7/6	488	7/6	59	7/6	129	7/6	145	7/6	145
7/7	192	7/7	242	7/7	371	7/7	419	7/7	52	7/7	128	7/7	104	7/7	113
7/8	154	7/8	212	7/8	241	7/8	356	7/8	48	7/8	127	7/8	234	7/8	128
7/9	118	7/9	193	7/9	360	7/9	1780	7/9	46	7/9	126	7/9	107	7/9	140
7/10	106	7/10	204	7/10	300	7/10	4940	7/10	45	7/10	127	7/10	96	7/10	93
7/11	135	7/11	182	7/11	278	7/11	777	7/11	117	7/11	150	7/11	262	7/11	182
7/12	238	7/12	207	7/12	599	7/12	1040	7/12	192	7/12	224	7/12	268	7/12	311
7/13	623	7/13	1250	7/13	1740	7/13	1610	7/13	117	7/13	257	7/13	148	7/13	223
7/14	680	7/14	1800	7/14	2200	7/14	1700	7/14	90	7/14	242	7/14	252	7/14	201
7/15	586	7/15	1470	7/15	1900	7/15	3220	7/15	106	7/15	219	7/15	255	7/15	226
7/16	798	7/16	971	7/16	1670	7/16	2300	7/16	178	7/16	210	7/16	220	7/16	249
7/17	669	7/17	936	7/17	1390	7/17	1630	7/17	197	7/17	231	7/17	264	7/17	229
7/18	485	7/18	789	7/18	1130	7/18	1320	7/18	243	7/18	394	7/18	445	7/18	314
7/19	356	7/19	595	7/19	892	7/19	1060	7/19	263	7/19	1020	7/19	1260	7/19	816
7/20	271	7/20	439	7/20	702	7/20	857	7/20	326	7/20	1160	7/20	1980	7/20	1960
7/21	241	7/21	344	7/21	615	7/21	675	7/21	903	7/21	2490	7/21	2630	7/21	3050
7/22	241	7/22	330	7/22	472	7/22	606	7/22	626	7/22	2000	7/22	2770	7/22	2980
7/23	263	7/23	319	7/23	411	7/23	496	7/23	487	7/23	1280	7/23	2150	7/23	2560
7/24	240	7/24	294	7/24	361	7/24	454	7/24	426	7/24	1250	7/24	1410	7/24	1650
7/25	207	7/25	264	7/25	384	7/25	426	7/25	380	7/25	863	7/25	1290	7/25	1340
7/26	172	7/26	240	7/26	338	7/26	441	7/26	308	7/26	587	7/26	990	7/26	1060
7/27	151	7/27	223	7/27	396	7/27	439	7/27	250	7/27	447	7/27	698	7/27	738
7/28	140	7/28	212	7/28	325	7/28	413	7/28	191	7/28	367	7/28	547	7/28	594
7/29	143	7/29	213	7/29	258	7/29	344	7/29	154	7/29	307	7/29	461	7/29	523
7/30	136	7/30	204	7/30	234	7/30	297	7/30	126	7/30	261	7/30	440	7/30	435
7/31	153	7/31	193	7/31	205	7/31	290	7/31	116	7/31	246	7/31	368	7/31	414

## Historical Drought Flows on the Kentucky River

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1986 Drought								1988 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
8/1	124	8/1	188	8/1	191	8/1	268	8/1	111	8/1	291	8/1	348	8/1	406
8/2	85	8/2	194	8/2	194	8/2	236	8/2	99	8/2	262	8/2	421	8/2	385
8/3	69	8/3	153	8/3	194	8/3	231	8/3	91	8/3	219	8/3	373	8/3	481
8/4	69	8/4	142	8/4	180	8/4	219	8/4	92	8/4	247	8/4	423	8/4	521
8/5	73	8/5	143	8/5	152	8/5	196	8/5	177	8/5	284	8/5	380	8/5	456
8/6	66	8/6	142	8/6	124	8/6	186	8/6	168	8/6	591	8/6	667	8/6	583
8/7	62	8/7	142	8/7	123	8/7	190	8/7	130	8/7	760	8/7	929	8/7	907
8/8	58	8/8	141	8/8	140	8/8	184	8/8	128	8/8	398	8/8	897	8/8	963
8/9	46	8/9	135	8/9	141	8/9	208	8/9	141	8/9	265	8/9	623	8/9	793
8/10	46	8/10	131	8/10	111	8/10	213	8/10	161	8/10	216	8/10	424	8/10	557
8/11	66	8/11	138	8/11	146	8/11	209	8/11	163	8/11	195	8/11	323	8/11	462
8/12	64	8/12	142	8/12	128	8/12	192	8/12	138	8/12	192	8/12	314	8/12	501
8/13	137	8/13	145	8/13	124	8/13	180	8/13	107	8/13	175	8/13	295	8/13	471
8/14	244	8/14	168	8/14	199	8/14	182	8/14	63	8/14	154	8/14	263	8/14	352
8/15	355	8/15	213	8/15	183	8/15	261	8/15	46	8/15	149	8/15	293	8/15	332
8/16	264	8/16	272	8/16	169	8/16	235	8/16	57	8/16	141	8/16	209	8/16	367
8/17	205	8/17	308	8/17	279	8/17	259	8/17	68	8/17	133	8/17	113	8/17	222
8/18	219	8/18	311	8/18	311	8/18	354	8/18	60	8/18	127	8/18	207	8/18	186
8/19	328	8/19	295	8/19	301	8/19	392	8/19	66	8/19	123	8/19	140	8/19	250
8/20	377	8/20	411	8/20	654	8/20	562	8/20	141	8/20	123	8/20	164	8/20	186
8/21	399	8/21	394	8/21	578	8/21	658	8/21	71	8/21	155	8/21	196	8/21	237
8/22	751	8/22	430	8/22	456	8/22	562	8/22	45	8/22	143	8/22	115	8/22	188
8/23	488	8/23	604	8/23	503	8/23	541	8/23	113	8/23	138	8/23	436	8/23	295
8/24	379	8/24	535	8/24	601	8/24	631	8/24	417	8/24	243	8/24	518	8/24	753
8/25	283	8/25	430	8/25	520	8/25	624	8/25	394	8/25	522	8/25	486	8/25	546
8/26	213	8/26	360	8/26	501	8/26	553	8/26	396	8/26	513	8/26	687	8/26	583
8/27	184	8/27	335	8/27	381	8/27	491	8/27	308	8/27	396	8/27	683	8/27	689
8/28	165	8/28	283	8/28	286	8/28	415	8/28	241	8/28	309	8/28	576	8/28	616
8/29	145	8/29	259	8/29	284	8/29	359	8/29	208	8/29	267	8/29	636	8/29	665
8/30	156	8/30	241	8/30	241	8/30	318	8/30	201	8/30	241	8/30	503	8/30	559
8/31	188	8/31	226	8/31	190	8/31	306	8/31	173	8/31	212	8/31	434	8/31	476
9/1	247	9/1	240	9/1	258	9/1	291	9/1	151	9/1	194	9/1	395	9/1	412
9/2	450	9/2	279	9/2	274	9/2	432	9/2	167	9/2	179	9/2	354	9/2	385
9/3	2280	9/3	657	9/3	322	9/3	416	9/3	160	9/3	194	9/3	624	9/3	938
9/4	2150	9/4	2080	9/4	1010	9/4	607	9/4	623	9/4	2340	9/4	2570	9/4	2850
9/5	1480	9/5	2080	9/5	2190	9/5	1830	9/5	324	9/5	2120	9/5	3370	9/5	3970
9/6	1210	9/6	1460	9/6	2160	9/6	2150	9/6	285	9/6	878	9/6	2420	9/6	3150
9/7	1100	9/7	1230	9/7	1500	9/7	1580	9/7	368	9/7	451	9/7	1200	9/7	1720
9/8	707	9/8	1070	9/8	1240	9/8	1250	9/8	391	9/8	335	9/8	901	9/8	995
9/9	492	9/9	792	9/9	1090	9/9	1120	9/9	349	9/9	305	9/9	612	9/9	737
9/10	371	9/10	589	9/10	893	9/10	887	9/10	282	9/10	274	9/10	512	9/10	639
9/11	301	9/11	463	9/11	641	9/11	665	9/11	222	9/11	237	9/11	503	9/11	577
9/12	342	9/12	593	9/12	873	9/12	820	9/12	210	9/12	211	9/12	489	9/12	560
9/13	383	9/13	561	9/13	813	9/13	809	9/13	205	9/13	194	9/13	434	9/13	511
9/14	609	9/14	514	9/14	670	9/14	685	9/14	175	9/14	179	9/14	405	9/14	538
9/15	506	9/15	619	9/15	700	9/15	633	9/15	148	9/15	168	9/15	327	9/15	448
9/16	381	9/16	599	9/16	666	9/16	594	9/16	133	9/16	159	9/16	290	9/16	428
9/17	324	9/17	491	9/17	645	9/17	640	9/17	364	9/17	212	9/17	434	9/17	433
9/18	310	9/18	423	9/18	547	9/18	574	9/18	1060	9/18	399	9/18	528	9/18	522
9/19	305	9/19	393	9/19	507	9/19	512	9/19	1640	9/19	1120	9/19	888	9/19	821
9/20	308	9/20	387	9/20	590	9/20	597	9/20	1120	9/20	1430	9/20	1480	9/20	1330
9/21	348	9/21	406	9/21	666	9/21	669	9/21	675	9/21	1040	9/21	1610	9/21	1760
9/22	398	9/22	454	9/22	543	9/22	570	9/22	462	9/22	675	9/22	1270	9/22	1540

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1986 Drought								1988 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
9/23	572	9/23	514	9/23	650	9/23	547	9/23	395	9/23	475	9/23	979	9/23	1050
9/24	1130	9/24	949	9/24	1380	9/24	1070	9/24	2770	9/24	2590	9/24	2360	9/24	1830
9/25	2160	9/25	1660	9/25	1680	9/25	1600	9/25	3650	9/25	5670	9/25	5310	9/25	5020
9/26	1900	9/26	2140	9/26	1940	9/26	1790	9/26	3140	9/26	4770	9/26	6370	9/26	6920
9/27	1270	9/27	1940	9/27	2370	9/27	2120	9/27	2080	9/27	3100	9/27	4770	9/27	5770
9/28	862	9/28	1440	9/28	2120	9/28	2260	9/28	1220	9/28	1980	9/28	3300	9/28	4020
9/29	680	9/29	1070	9/29	1490	9/29	1600	9/29	836	9/29	1280	9/29	2360	9/29	2830
9/30	501	9/30	815	9/30	1130	9/30	1180	9/30	630	9/30	894	9/30	1600	9/30	2010
10/1	403	10/1	638	10/1	948	10/1	941	10/1	464	10/1	590	10/1	1220	10/1	1530
10/2	451	10/2	520	10/2	784	10/2	811	10/2	394	10/2	483	10/2	1010	10/2	1100
10/3	478	10/3	499	10/3	662	10/3	695	10/3	346	10/3	411	10/3	864	10/3	876
10/4	435	10/4	509	10/4	672	10/4	639	10/4	302	10/4	356	10/4	734	10/4	814
10/5	475	10/5	506	10/5	604	10/5	648	10/5	270	10/5	319	10/5	569	10/5	641
10/6	533	10/6	600	10/6	699	10/6	670	10/6	245	10/6	285	10/6	286	10/6	616
10/7	559	10/7	637	10/7	657	10/7	667	10/7	222	10/7	261	10/7	262	10/7	527
10/8	658	10/8	632	10/8	645	10/8	684	10/8	198	10/8	239	10/8	290	10/8	516
10/9	608	10/9	667	10/9	695	10/9	705	10/9	183	10/9	224	10/9	208	10/9	472
10/10	515	10/10	627	10/10	685	10/10	678	10/10	166	10/10	214	10/10	201	10/10	438
10/11	394	10/11	561	10/11	678	10/11	741	10/11	157	10/11	211	10/11	235	10/11	441
10/12	329	10/12	479	10/12	628	10/12	657	10/12	147	10/12	199	10/12	211	10/12	407
10/13	378	10/13	481	10/13	557	10/13	642	10/13	141	10/13	199	10/13	200	10/13	371
10/14	550	10/14	736	10/14	587	10/14	587	10/14	130	10/14	192	10/14	409	10/14	259
10/15	2580	10/15	1390	10/15	844	10/15	734	10/15	126	10/15	190	10/15	403	10/15	440
10/16	3230	10/16	2710	10/16	1690	10/16	1460	10/16	125	10/16	188	10/16	349	10/16	376
10/17	2030	10/17	2680	10/17	2640	10/17	2470	10/17	126	10/17	185	10/17	305	10/17	359
10/18	1180	10/18	1840	10/18	2760	10/18	2890	10/18	120	10/18	170	10/18	310	10/18	351
10/19	938	10/19	1300	10/19	1920	10/19	2190	10/19	120	10/19	162	10/19	367	10/19	338
10/20	840	10/20	1060	10/20	1220	10/20	1440	10/20	120	10/20	164	10/20	313	10/20	334
10/21	741	10/21	950	10/21	884	10/21	1130	10/21	131	10/21	183	10/21	383	10/21	383
10/22	672	10/22	847	10/22	986	10/22	871	10/22	164	10/22	206	10/22	351	10/22	388
10/23	634	10/23	756	10/23	928	10/23	1120	10/23	176	10/23	235	10/23	390	10/23	444
10/24	603	10/24	693	10/24	721	10/24	810	10/24	237	10/24	280	10/24	526	10/24	475
10/25	627	10/25	714	10/25	842	10/25	943	10/25	355	10/25	314	10/25	528	10/25	518
10/26	641	10/26	705	10/26	796	10/26	864	10/26	508	10/26	387	10/26	677	10/26	602
10/27	666	10/27	699	10/27	852	10/27	919	10/27	483	10/27	505	10/27	670	10/27	651
10/28	748	10/28	734	10/28	771	10/28	822	10/28	395	10/28	538	10/28	715	10/28	664
10/29	740	10/29	778	10/29	846	10/29	887	10/29	355	10/29	476	10/29	747	10/29	761
10/30	650	10/30	754	10/30	843	10/30	857	10/30	317	10/30	414	10/30	625	10/30	666
10/31	671	10/31	677	10/31	822	10/31	852	10/31	292	10/31	369	10/31	685	10/31	505
11/1	567	11/1	631	11/1	781	11/1	851	11/1	275	11/1	334	11/1	570	11/1	715
11/2	600	11/2	559	11/2	721	11/2	752	11/2	265	11/2	310	11/2	524	11/2	568
11/3	641	11/3	525	11/3	626	11/3	695	11/3	258	11/3	301	11/3	462	11/3	528
11/4	629	11/4	533	11/4	643	11/4	647	11/4	253	11/4	310	11/4	469	11/4	559
11/5	714	11/5	739	11/5	1020	11/5	962	11/5	424	11/5	488	11/5	654	11/5	650
11/6	1270	11/6	1610	11/6	2250	11/6	2210	11/6	1160	11/6	1170	11/6	1260	11/6	1010
11/7	2290	11/7	2130	11/7	2440	11/7	2380	11/7	1980	11/7	2130	11/7	1860	11/7	1780
11/8	4080	11/8	10800	11/8	8850	11/8	7110	11/8	1550	11/8	2400	11/8	2400	11/8	2320
11/9	24900	11/9	32400	11/9	36800	11/9	30900	11/9	1190	11/9	2000	11/9	2570	11/9	2750
11/10	25800	11/10	39500	11/10	39500	11/10	39500	11/10	1210	11/10	2160	11/10	2540	11/10	2680
11/11	14900	11/11	34900	11/11	40000	11/11	41300	11/11	1570	11/11	3380	11/11	3390	11/11	3550
11/12	18600	11/12	20700	11/12	30000	11/12	35500	11/12	1690	11/12	3310	11/12	3620	11/12	4010
11/13	12800	11/13	18400	11/13	21000	11/13	22600	11/13	1380	11/13	2900	11/13	3230	11/13	3630
11/14	8390	11/14	11600	11/14	17200	11/14	18400	11/14	1080	11/14	2440	11/14	2960	11/14	3170

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
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1986 Drought								1988 Drought							
Lock 14		Lock 10		Lock 6		Lock 4		Lock 14		Lock 10		Lock 6		Lock 4	
11/15	6810	11/15	8120	11/15	12500	11/15	12400	11/15	882	11/15	2020	11/15	2470	11/15	2800
11/16	6030	11/16	6850	11/16	10000	11/16	9980	11/16	766	11/16	1710	11/16	2110	11/16	2350
11/17	5490	11/17	6120	11/17	8390	11/17	8530	11/17	808	11/17	1700	11/17	1690	11/17	1870
11/18	4380	11/18	5430	11/18	7270	11/18	7400	11/18	1160	11/18	1920	11/18	1710	11/18	1770
11/19	3520	11/19	4300	11/19	7210	11/19	7600	11/19	2000	11/19	13100	11/19	14500	11/19	10200
11/20	3050	11/20	3470	11/20	6110	11/20	6590	11/20	14300	11/20	37100	11/20	50700	11/20	42500
11/21	2450	11/21	3100	11/21	5420	11/21	5800	11/21	13600	11/21	36100	11/21	49700	11/21	52300
11/22	1790	11/22	2450	11/22	5040	11/22	5370	11/22	6510	11/22	23000	11/22	35100	11/22	39800
11/23	1520	11/23	1960	11/23	4370	11/23	4640	11/23	4350	11/23	10800	11/23	20200	11/23	21500
11/24	1790	11/24	1990	11/24	3810	11/24	4050	11/24	3240	11/24	6240	11/24	10900	11/24	12000
11/25	2980	11/25	3220	11/25	3520	11/25	3230	11/25	2600	11/25	5030	11/25	7450	11/25	8300
11/26	11900	11/26	22000	11/26	28100	11/26	23100	11/26	1960	11/26	3950	11/26	5970	11/26	6630
11/27	18900	11/27	26100	11/27	22000	11/27	42200	11/27	1760	11/27	3570	11/27	5280	11/27	6400
11/28	10600	11/28	19800	11/28	17300	11/28	32100	11/28	2610	11/28	3870	11/28	5740	11/28	6190
11/29	6980	11/29	10800	11/29	17600	11/29	20600	11/29	3950	11/29	5000	11/29	6070	11/29	6650
11/30	5440	11/30	7400	11/30	12900	11/30	13500	11/30	3250	11/30	5430	11/30	6980	11/30	7340
12/1	3880	12/1	6050	12/1	10200	12/1	11000	12/1	2520	12/1	4530	12/1	6670	12/1	7260
12/2	5860	12/2	9920	12/2	13000	12/2	13800	12/2	1960	12/2	3720	12/2	4910	12/2	5590
12/3	6860	12/3	13200	12/3	17700	12/3	18300	12/3	1360	12/3	2970	12/3	3720	12/3	4220
12/4	6210	12/4	10600	12/4	16300	12/4	17500	12/4	1390	12/4	2420	12/4	2920	12/4	3230
12/5	4590	12/5	7600	12/5	13600	12/5	14100	12/5	1440	12/5	2390	12/5	2350	12/5	2740
12/6	3610	12/6	5690	12/6	10300	12/6	11100	12/6	1200	12/6	2300	12/6	3230	12/6	3430
12/7	2900	12/7	4550	12/7	8190	12/7	8880	12/7	956	12/7	2010	12/7	3030	12/7	3220
12/8	2690	12/8	3830	12/8	6930	12/8	7570	12/8	891	12/8	1760	12/8	2610	12/8	2720
12/9	6130	12/9	13900	12/9	13500	12/9	13300	12/9	814	12/9	1640	12/9	2180	12/9	2270
12/10	23000	12/10	27400	12/10	30000	12/10	33200	12/10	740	12/10	1520	12/10	2090	12/10	2090
12/11	18800	12/11	29500	12/11	33000	12/11	36200	12/11	609	12/11	1380	12/11	1730	12/11	1950
12/12	11400	12/12	19100	12/12	30000	12/12	33700	12/12	562	12/12	1230	12/12	2020	12/12	1850
12/13	8930	12/13	12000	12/13	19000	12/13	19600	12/13	558	12/13	1160	12/13	1430	12/13	1850
12/14	7250	12/14	9250	12/14	14000	12/14	14200	12/14	552	12/14	1150	12/14	1080	12/14	1640
12/15	5250	12/15	7340	12/15	11600	12/15	11900	12/15	555	12/15	1180	12/15	1400	12/15	1570
12/16	3950	12/16	5590	12/16	9420	12/16	10000	12/16	549	12/16	1170	12/16	1640	12/16	1630
12/17	3330	12/17	4510	12/17	7680	12/17	8230	12/17	521	12/17	1130	12/17	1380	12/17	1660
12/18	2870	12/18	3840	12/18	6590	12/18	7050	12/18	516	12/18	1100	12/18	1240	12/18	1320
12/19	2550	12/19	3400	12/19	5940	12/19	6300	12/19	491	12/19	1070	12/19	1320	12/19	1140
12/20	2400	12/20	3000	12/20	5400	12/20	5720	12/20	480	12/20	1050	12/20	1230	12/20	1090
12/21	2110	12/21	2700	12/21	5050	12/21	5210	12/21	1190	12/21	2380	12/21	1950	12/21	1570
12/22	1850	12/22	2500	12/22	4740	12/22	4890	12/22	5450	12/22	7680	12/22	6130	12/22	5080
12/23	1610	12/23	2500	12/23	4310	12/23	4400	12/23	5810	12/23	13900	12/23	15600	12/23	13200
12/24	2270	12/24	2700	12/24	4590	12/24	4890	12/24	14800	12/24	22400	12/24	29100	12/24	27500
12/25	3400	12/25	4700	12/25	6530	12/25	6480	12/25	27400	12/25	36100	12/25	41400	12/25	39900
12/26	3740	12/26	7000	12/26	8190	12/26	8240	12/26	15700	12/26	32900	12/26	41200	12/26	39200
12/27	3860	12/27	6500	12/27	8110	12/27	8420	12/27	8650	12/27	17100	12/27	29300	12/27	30800
12/28	3440	12/28	6000	12/28	7670	12/28	7990	12/28	6800	12/28	12300	12/28	17400	12/28	19200
12/29	3080	12/29	5000	12/29	7040	12/29	7400	12/29	7290	12/29	12700	12/29	17800	12/29	17300
12/30	2810	12/30	4200	12/30	6000	12/30	6650	12/30	5830	12/30	10800	12/30	15800	12/30	15400
12/31	2540	12/31	3500	12/31	4690	12/31	5080	12/31	4460	12/31	8190	12/31	12800	12/31	13000

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
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1999 Drought							
Lock 14		Lock 10		Lock 6		Lock 4	
1/1	2600	1/1	3000	1/1	3170	1/1	3260
1/2	2320	1/2	2890	1/2	3180	1/2	3380
1/3	3470	1/3	5030	1/3	5680	1/3	7820
1/4	6060	1/4	6720	1/4	8750	1/4	9280
1/5	4880	1/5	6620	1/5	9570	1/5	9880
1/6	3250	1/6	5010	1/6	8550	1/6	9060
1/7	2510	1/7	3720	1/7	6570	1/7	6870
1/8	2820	1/8	6390	1/8	5400	1/8	7600
1/9	28900	1/9	31900	1/9	34200	1/9	38700
1/10	35500	1/10	44200	1/10	49200	1/10	49200
1/11	18100	1/11	40300	1/11	50300	1/11	49800
1/12	9540	1/12	17600	1/12	40500	1/12	41300
1/13	7610	1/13	10200	1/13	18300	1/13	21500
1/14	6790	1/14	8800	1/14	13000	1/14	15500
1/15	8450	1/15	10100	1/15	13000	1/15	14200
1/16	12200	1/16	12400	1/16	14300	1/16	15500
1/17	10000	1/17	13100	1/17	16100	1/17	17600
1/18	8420	1/18	13300	1/18	17000	1/18	18800
1/19	12800	1/19	12500	1/19	17400	1/19	19400
1/20	13600	1/20	14900	1/20	16700	1/20	18400
1/21	10100	1/21	13000	1/21	17800	1/21	20200
1/22	8050	1/22	10400	1/22	15300	1/22	17200
1/23	11700	1/23	15200	1/23	15800	1/23	21500
1/24	30600	1/24	25000	1/24	29000	1/24	31500
1/25	25200	1/25	30400	1/25	35400	1/25	35500
1/26	13800	1/26	21500	1/26	35600	1/26	35600
1/27	9950	1/27	13100	1/27	22600	1/27	25600
1/28	8530	1/28	10500	1/28	15400	1/28	17200
1/29	7270	1/29	8910	1/29	13100	1/29	14100
1/30	5190	1/30	7370	1/30	11400	1/30	12100
1/31	4040	1/31	5560	1/31	9720	1/31	10700
2/1	4420	2/1	9210	2/1	11500	2/1	15800
2/2	6040	2/2	10100	2/2	17000	2/2	20200
2/3	6120	2/3	9670	2/3	15000	2/3	17200
2/4	5120	2/4	8200	2/4	13200	2/4	14700
2/5	4180	2/5	6640	2/5	11300	2/5	12200
2/6	3520	2/6	5390	2/6	9540	2/6	10100
2/7	3050	2/7	4690	2/7	8180	2/7	8920
2/8	2840	2/8	4250	2/8	7260	2/8	7920
2/9	2610	2/9	3840	2/9	6630	2/9	7190
2/10	2340	2/10	3460	2/10	6000	2/10	6550
2/11	2150	2/11	3090	2/11	5550	2/11	5920
2/12	2260	2/12	3880	2/12	4920	2/12	6360
2/13	3270	2/13	6090	2/13	7460	2/13	8270
2/14	3870	2/14	5940	2/14	9230	2/14	9770
2/15	3590	2/15	5590	2/15	8720	2/15	9100
2/16	3410	2/16	5090	2/16	8560	2/16	8850
2/17	3380	2/17	4900	2/17	7920	2/17	8230
2/18	3590	2/18	4920	2/18	6730	2/18	7230
2/19	3530	2/19	4850	2/19	5770	2/19	6180
2/20	3290	2/20	4570	2/20	5340	2/20	5640
2/21	2970	2/21	4170	2/21	5020	2/21	5310
2/22	2640	2/22	3730	2/22	4780	2/22	4890

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1999 Drought							
Lock 14		Lock 10		Lock 6		Lock 4	
2/23	2360	2/23	3310	2/23	5160	2/23	5390
2/24	2150	2/24	3020	2/24	3860	2/24	4050
2/25	2060	2/25	2870	2/25	3270	2/25	3240
2/26	2090	2/26	2970	2/26	3190	2/26	3160
2/27	2060	2/27	3000	2/27	3240	2/27	3230
2/28	2950	2/28	3400	2/28	3740	2/28	4710
3/1	8350	3/1	5840	3/1	4880	3/1	5670
3/2	10000	3/2	10200	3/2	8370	3/2	8600
3/3	10300	3/3	13700	3/3	12800	3/3	14400
3/4	19600	3/4	18200	3/4	20900	3/4	23600
3/5	18200	3/5	20700	3/5	24300	3/5	26900
3/6	12900	3/6	16800	3/6	24300	3/6	27400
3/7	10800	3/7	13900	3/7	19600	3/7	22300
3/8	8720	3/8	11500	3/8	16400	3/8	18600
3/9	7090	3/9	10000	3/9	14300	3/9	17700
3/10	7870	3/10	10500	3/10	14000	3/10	16900
3/11	7860	3/11	10700	3/11	13800	3/11	16000
3/12	6920	3/12	9590	3/12	12900	3/12	14400
3/13	5760	3/13	8110	3/13	11400	3/13	12600
3/14	6870	3/14	11800	3/14	10600	3/14	13300
3/15	15400	3/15	20100	3/15	27300	3/15	30200
3/16	19000	3/16	21100	3/16	27500	3/16	30400
3/17	15200	3/17	18400	3/17	26100	3/17	28800
3/18	12700	3/18	14800	3/18	21300	3/18	24300
3/19	10400	3/19	12600	3/19	17400	3/19	20000
3/20	7480	3/20	10200	3/20	15000	3/20	17100
3/21	5720	3/21	7580	3/21	12500	3/21	13900
3/22	4740	3/22	6220	3/22	10100	3/22	10900
3/23	3990	3/23	5300	3/23	8850	3/23	9940
3/24	3450	3/24	5440	3/24	8100	3/24	9280
3/25	3070	3/25	5080	3/25	8630	3/25	9410
3/26	2750	3/26	4330	3/26	7390	3/26	8210
3/27	2480	3/27	3760	3/27	5530	3/27	6330
3/28	2330	3/28	3370	3/28	4410	3/28	4830
3/29	2180	3/29	3120	3/29	3870	3/29	4100
3/30	2050	3/30	2900	3/30	3690	3/30	3840
3/31	1930	3/31	2710	3/31	3890	3/31	4050
4/1	1890	4/1	2640	4/1	3760	4/1	4080
4/2	1980	4/2	2600	4/2	2980	4/2	3170
4/3	2070	4/3	2650	4/3	2870	4/3	2990
4/4	1970	4/4	2620	4/4	2850	4/4	2950
4/5	1820	4/5	2530	4/5	2740	4/5	2810
4/6	1640	4/6	2370	4/6	2770	4/6	2990
4/7	1410	4/7	2170	4/7	2520	4/7	2700
4/8	1320	4/8	1960	4/8	2320	4/8	2360
4/9	1380	4/9	1930	4/9	2140	4/9	2140
4/10	1660	4/10	2010	4/10	2090	4/10	2070
4/11	2030	4/11	2240	4/11	2110	4/11	2050
4/12	3130	4/12	2630	4/12	2180	4/12	2130
4/13	4520	4/13	3830	4/13	2690	4/13	2650
4/14	3510	4/14	4430	4/14	3790	4/14	3850
4/15	2960	4/15	3730	4/15	4420	4/15	4800
4/16	3350	4/16	3550	4/16	3840	4/16	4110

**Historical Drought Flows on the Kentucky River**  
**(All data is daily mean flow, cubic feet per second,**  
**as reported by the U.S. Geological Survey)**

1999 Drought							
Lock 14		Lock 10		Lock 6		Lock 4	
4/17	3950	4/17	4180	4/17	3740	4/17	3920
4/18	3350	4/18	4280	4/18	4240	4/18	4460
4/19	2840	4/19	3690	4/19	4220	4/19	4520
4/20	2660	4/20	3320	4/20	3820	4/20	4100
4/21	2630	4/21	3210	4/21	3390	4/21	3580
4/22	2400	4/22	3070	4/22	3150	4/22	3320
4/23	2180	4/23	2820	4/23	3130	4/23	3310
4/24	1990	4/24	2600	4/24	2780	4/24	3000
4/25	1840	4/25	2420	4/25	2650	4/25	2780
4/26	1790	4/26	2320	4/26	2470	4/26	2770
4/27	2080	4/27	2560	4/27	2470	4/27	2800
4/28	3960	4/28	4040	4/28	2650	4/28	2920
4/29	11600	4/29	9660	4/29	5480	4/29	6070
4/30	6720	4/30	12100	4/30	11600	4/30	8000
5/1	4360	5/1	7360	5/1	12100	5/1	12600
5/2	3230	5/2	5170	5/2	7690	5/2	8580
5/3	2580	5/3	4020	5/3	5260	5/3	6040
5/4	2170	5/4	3280	5/4	4040	5/4	4560
5/5	1890	5/5	2820	5/5	3280	5/5	3670
5/6	2220	5/6	2750	5/6	2870	5/6	3300
5/7	4010	5/7	3690	5/7	2860	5/7	3340
5/8	4330	5/8	4860	5/8	3600	5/8	4190
5/9	5010	5/9	4920	5/9	4670	5/9	5370
5/10	3970	5/10	5020	5/10	4810	5/10	5680
5/11	2730	5/11	3900	5/11	4860	5/11	5680
5/12	2150	5/12	2900	5/12	3750	5/12	4420
5/13	1840	5/13	2510	5/13	2870	5/13	3330
5/14	1550	5/14	2920	5/14	2420	5/14	2790
5/15	1510	5/15	2160	5/15	2740	5/15	3070
5/16	1350	5/16	1870	5/16	2260	5/16	2580
5/17	1130	5/17	1630	5/17	1930	5/17	2140
5/18	992	5/18	1390	5/18	1560	5/18	1760
5/19	989	5/19	1290	5/19	1570	5/19	1710
5/20	960	5/20	1240	5/20	1150	5/20	1350
5/21	1040	5/21	1200	5/21	947	5/21	847
5/22	936	5/22	1170	5/22	1310	5/22	1330
5/23	739	5/23	1080	5/23	1160	5/23	1190
5/24	840	5/24	1120	5/24	1140	5/24	1170
5/25	1010	5/25	1230	5/25	1270	5/25	1290
5/26	1150	5/26	1260	5/26	1290	5/26	1350
5/27	881	5/27	1250	5/27	1240	5/27	1280
5/28	662	5/28	1030	5/28	1210	5/28	1260
5/29	570	5/29	804	5/29	1050	5/29	1090
5/30	501	5/30	667	5/30	869	5/30	893
5/31	440	5/31	588	5/31	777	5/31	778
6/1	387	6/1	537	6/1	610	6/1	672
6/2	358	6/2	488	6/2	215	6/2	321
6/3	368	6/3	456	6/3	385	6/3	370
6/4	473	6/4	446	6/4	432	6/4	434
6/5	501	6/5	479	6/5	415	6/5	433
6/6	430	6/6	510	6/6	415	6/6	440
6/7	363	6/7	494	6/7	523	6/7	479
6/8	319	6/8	451	6/8	634	6/8	641

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1999 Drought							
Lock 14		Lock 10		Lock 6		Lock 4	
6/9	293	6/9	416	6/9	228	6/9	324
6/10	299	6/10	378	6/10	326	6/10	340
6/11	314	6/11	365	6/11	398	6/11	443
6/12	311	6/12	346	6/12	347	6/12	434
6/13	325	6/13	338	6/13	308	6/13	429
6/14	332	6/14	383	6/14	346	6/14	485
6/15	420	6/15	406	6/15	370	6/15	482
6/16	418	6/16	427	6/16	382	6/16	429
6/17	353	6/17	455	6/17	382	6/17	413
6/18	315	6/18	423	6/18	401	6/18	412
6/19	285	6/19	371	6/19	392	6/19	423
6/20	257	6/20	332	6/20	345	6/20	388
6/21	215	6/21	304	6/21	334	6/21	342
6/22	192	6/22	282	6/22	309	6/22	298
6/23	179	6/23	257	6/23	280	6/23	264
6/24	177	6/24	258	6/24	282	6/24	284
6/25	169	6/25	261	6/25	283	6/25	304
6/26	178	6/26	236	6/26	271	6/26	333
6/27	184	6/27	225	6/27	274	6/27	519
6/28	237	6/28	283	6/28	341	6/28	2310
6/29	382	6/29	480	6/29	556	6/29	4190
6/30	584	6/30	542	6/30	592	6/30	1290
7/1	869	7/1	650	7/1	616	7/1	1180
7/2	587	7/2	816	7/2	656	7/2	1130
7/3	470	7/3	682	7/3	818	7/3	1600
7/4	474	7/4	544	7/4	764	7/4	1500
7/5	511	7/5	496	7/5	604	7/5	1150
7/6	465	7/6	522	7/6	528	7/6	909
7/7	363	7/7	506	7/7	490	7/7	791
7/8	286	7/8	441	7/8	477	7/8	747
7/9	234	7/9	362	7/9	441	7/9	693
7/10	201	7/10	312	7/10	393	7/10	595
7/11	190	7/11	270	7/11	357	7/11	537
7/12	192	7/12	235	7/12	342	7/12	486
7/13	173	7/13	229	7/13	319	7/13	441
7/14	170	7/14	222	7/14	307	7/14	378
7/15	184	7/15	214	7/15	292	7/15	341
7/16	204	7/16	205	7/16	291	7/16	304
7/17	191	7/17	202	7/17	279	7/17	294
7/18	199	7/18	198	7/18	266	7/18	286
7/19	221	7/19	218	7/19	266	7/19	273
7/20	204	7/20	273	7/20	274	7/20	270
7/21	245	7/21	321	7/21	291	7/21	297
7/22	285	7/22	314	7/22	310	7/22	388
7/23	372	7/23	304	7/23	343	7/23	463
7/24	393	7/24	395	7/24	338	7/24	479
7/25	427	7/25	464	7/25	351	7/25	453
7/26	435	7/26	511	7/26	400	7/26	512
7/27	471	7/27	489	7/27	449	7/27	635
7/28	366	7/28	474	7/28	464	7/28	708
7/29	303	7/29	416	7/29	460	7/29	724
7/30	314	7/30	356	7/30	434	7/30	644
7/31	318	7/31	318	7/31	395	7/31	575

**Historical Drought Flows on the Kentucky River**  
 (All data is daily mean flow, cubic feet per second,  
 as reported by the U.S. Geological Survey)

1999 Drought							
Lock 14		Lock 10		Lock 6		Lock 4	
8/1	275	8/1	288	8/1	384	8/1	508
8/2	229	8/2	273	8/2	368	8/2	473
8/3	297	8/3	247	8/3	351	8/3	424
8/4	342	8/4	252	8/4	337	8/4	388
8/5	245	8/5	279	8/5	324	8/5	349
8/6	200	8/6	268	8/6	322	8/6	311
8/7	179	8/7	219	8/7	332	8/7	317
8/8	155	8/8	184	8/8	327	8/8	353
8/9	135	8/9	172	8/9	318	8/9	349
8/10	110	8/10	149	8/10	311	8/10	305
8/11	105	8/11	125	8/11	297	8/11	278
8/12	108	8/12	114	8/12	280	8/12	253
8/13	105	8/13	104	8/13	260	8/13	237
8/14	105	8/14	94	8/14	230	8/14	232
8/15	148	8/15	78	8/15	186	8/15	226
8/16	336	8/16	87	8/16	207	8/16	231
8/17	268	8/17	158	8/17	207	8/17	208
8/18	180	8/18	217	8/18	189	8/18	202
8/19	125	8/19	205	8/19	183	8/19	198
8/20	98	8/20	167	8/20	189	8/20	184
8/21	88	8/21	135	8/21	190	8/21	190
8/22	77	8/22	112	8/22	179	8/22	191
8/23	73	8/23	97	8/23	178	8/23	196
8/24	71	8/24	89	8/24	191	8/24	215
8/25	540	8/25	116	8/25	222	8/25	237
8/26	1640	8/26	452	8/26	201	8/26	213
8/27	610	8/27	1230	8/27	278	8/27	214
8/28	311	8/28	891	8/28	718	8/28	765
8/29	261	8/29	541	8/29	848	8/29	1470
8/30	250	8/30	379	8/30	576	8/30	1080
8/31	200	8/31	308	8/31	436	8/31	733
9/1	157	9/1	258	9/1	378	9/1	523
9/2	119	9/2	216	9/2	341	9/2	424
9/3	99	9/3	180	9/3	317	9/3	369
9/4	87	9/4	147	9/4	247	9/4	310
9/5	80	9/5	126	9/5	202	9/5	263
9/6	74	9/6	111	9/6	162	9/6	234
9/7	72	9/7	101	9/7	149	9/7	197
9/8	66	9/8	89	9/8	154	9/8	168
9/9	60	9/9	79	9/9	162	9/9	169
9/10	57	9/10	65	9/10	160	9/10	164
9/11	54	9/11	58	9/11	162	9/11	167
9/12	52	9/12	52	9/12	154	9/12	182
9/13	51	9/13	58	9/13	162	9/13	186
9/14	51	9/14	103	9/14	164	9/14	180
9/15	49	9/15	99	9/15	163	9/15	172
9/16	48	9/16	84	9/16	158	9/16	162
9/17	53	9/17	78	9/17	166	9/17	157
9/18	57	9/18	72	9/18	165	9/18	168
9/19	59	9/19	70	9/19	146	9/19	176
9/20	75	9/20	84	9/20	186	9/20	182
9/21	74	9/21	75	9/21	166	9/21	198
9/22	65	9/22	85	9/22	156	9/22	184

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1999 Drought							
Lock 14		Lock 10		Lock 6		Lock 4	
9/23	59	9/23	85	9/23	154	9/23	171
9/24	58	9/24	82	9/24	163	9/24	166
9/25	63	9/25	86	9/25	151	9/25	177
9/26	67	9/26	94	9/26	151	9/26	176
9/27	67	9/27	102	9/27	168	9/27	177
9/28	67	9/28	103	9/28	197	9/28	162
9/29	76	9/29	107	9/29	220	9/29	128
9/30	86	9/30	101	9/30	220	9/30	123
10/1	90	10/1	22	10/1	198	10/1	115
10/2	101	10/2	39	10/2	188	10/2	114
10/3	131	10/3	62	10/3	167	10/3	122
10/4	191	10/4	103	10/4	169	10/4	136
10/5	207	10/5	140	10/5	146	10/5	137
10/6	179	10/6	194	10/6	142	10/6	134
10/7	147	10/7	232	10/7	129	10/7	134
10/8	125	10/8	199	10/8	117	10/8	134
10/9	183	10/9	300	10/9	161	10/9	168
10/10	380	10/10	550	10/10	224	10/10	320
10/11	522	10/11	722	10/11	689	10/11	364
10/12	771	10/12	731	10/12	967	10/12	696
10/13	744	10/13	837	10/13	980	10/13	775
10/14	556	10/14	825	10/14	983	10/14	787
10/15	405	10/15	681	10/15	975	10/15	808
10/16	325	10/16	538	10/16	894	10/16	739
10/17	268	10/17	432	10/17	751	10/17	600
10/18	223	10/18	356	10/18	628	10/18	503
10/19	184	10/19	298	10/19	536	10/19	430
10/20	166	10/20	237	10/20	448	10/20	382
10/21	151	10/21	204	10/21	381	10/21	345
10/22	136	10/22	170	10/22	327	10/22	327
10/23	124	10/23	146	10/23	262	10/23	284
10/24	120	10/24	137	10/24	227	10/24	263
10/25	115	10/25	129	10/25	208	10/25	245
10/26	112	10/26	123	10/26	191	10/26	220
10/27	111	10/27	121	10/27	178	10/27	202
10/28	107	10/28	120	10/28	174	10/28	203
10/29	102	10/29	120	10/29	177	10/29	202
10/30	106	10/30	116	10/30	180	10/30	199
10/31	105	10/31	113	10/31	182	10/31	193
11/1	106	11/1	112	11/1	184	11/1	192
11/2	263	11/2	192	11/2	246	11/2	283
11/3	453	11/3	566	11/3	320	11/3	310
11/4	550	11/4	815	11/4	623	11/4	438
11/5	563	11/5	729	11/5	1010	11/5	929
11/6	468	11/6	635	11/6	1050	11/6	1180
11/7	384	11/7	529	11/7	963	11/7	1070
11/8	334	11/8	438	11/8	848	11/8	927
11/9	285	11/9	368	11/9	735	11/9	775
11/10	249	11/10	314	11/10	633	11/10	630
11/11	220	11/11	270	11/11	550	11/11	509
11/12	199	11/12	245	11/12	506	11/12	458
11/13	187	11/13	218	11/13	446	11/13	416
11/14	172	11/14	196	11/14	398	11/14	374

## Historical Drought Flows on the Kentucky River

(All data is daily mean flow, cubic feet per second,  
as reported by the U.S. Geological Survey)

1999 Drought							
Lock 14		Lock 10		Lock 6		Lock 4	
11/15	160	11/15	185	11/15	359	11/15	350
11/16	142	11/16	169	11/16	325	11/16	323
11/17	139	11/17	160	11/17	297	11/17	305
11/18	151	11/18	144	11/18	278	11/18	285
11/19	156	11/19	125	11/19	259	11/19	282
11/20	195	11/20	131	11/20	269	11/20	281
11/21	201	11/21	153	11/21	273	11/21	290
11/22	200	11/22	163	11/22	269	11/22	290
11/23	200	11/23	167	11/23	285	11/23	289
11/24	211	11/24	170	11/24	287	11/24	289
11/25	249	11/25	203	11/25	315	11/25	310
11/26	353	11/26	287	11/26	377	11/26	375
11/27	1330	11/27	497	11/27	428	11/27	393
11/28	2160	11/28	1340	11/28	623	11/28	475
11/29	1450	11/29	1800	11/29	1400	11/29	1260
11/30	1020	11/30	1300	11/30	1950	11/30	2200
12/1	752	12/1	920	12/1	1620	12/1	1820
12/2	608	12/2	712	12/2	1260	12/2	1720
12/3	493	12/3	594	12/3	1020	12/3	1350
12/4	404	12/4	500	12/4	879	12/4	1020
12/5	371	12/5	430	12/5	779	12/5	861
12/6	382	12/6	390	12/6	687	12/6	713
12/7	381	12/7	379	12/7	625	12/7	628
12/8	368	12/8	372	12/8	589	12/8	594
12/9	352	12/9	365	12/9	575	12/9	560
12/10	421	12/10	450	12/10	636	12/10	649
12/11	769	12/11	614	12/11	784	12/11	755
12/12	1130	12/12	828	12/12	961	12/12	988
12/13	1450	12/13	1790	12/13	1490	12/13	1870
12/14	2320	12/14	3730	12/14	3480	12/14	4650
12/15	3700	12/15	4560	12/15	5100	12/15	5500
12/16	2890	12/16	4480	12/16	5420	12/16	5700
12/17	1850	12/17	3150	12/17	4800	12/17	5480
12/18	1530	12/18	2180	12/18	3500	12/18	3890
12/19	1420	12/19	1770	12/19	2610	12/19	2700
12/20	1240	12/20	1560	12/20	2210	12/20	2190
12/21	1080	12/21	1330	12/21	1950	12/21	1920
12/22	979	12/22	1170	12/22	1730	12/22	1710
12/23	728	12/23	1050	12/23	1560	12/23	1510
12/24	517	12/24	881	12/24	1450	12/24	1390
12/25	410	12/25	749	12/25	1280	12/25	1230
12/26	370	12/26	665	12/26	1120	12/26	1010
12/27	340	12/27	628	12/27	1030	12/27	870
12/28	320	12/28	587	12/28	975	12/28	805
12/29	300	12/29	535	12/29	923	12/29	753
12/30	280	12/30	502	12/30	887	12/30	715
12/31	270	12/31	467	12/31	842	12/31	687

## Flow Data for 1/1/02 until 7/31/02

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2/7/2002	3,700
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2/5/2002	6,160
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7/14/2002	2,210
7/15/2002	3,680
7/16/2002	2,990
7/17/2002	1,910
7/18/2002	1,370
7/19/2002	1,060
7/20/2002	1,220
7/21/2002	1,270

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6/8/2002	2,080
6/9/2002	2,360
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6/11/2002	1,830
6/12/2002	1,480
6/13/2002	1,450
6/14/2002	2,300
6/15/2002	3,160
6/16/2002	3,000
6/17/2002	2,380
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7/16/2002	3,190
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7/18/2002	1,810
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8/6/2002	371

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