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August 27, 2024

Ms. Jenny Bannister, Director  
Legislative Research Commission  
Office of Budget Review  
702 Capitol Avenue  
Capitol Annex, Room 136  
Frankfort, KY 40601

RE: 2024 High Hazard Dam Rehabilitation Report  
Kentucky Division of Water, Dam Safety Program

Director Bannister,

The Energy and Environment Cabinet is required to file a report recommending the priority ranking and funding mechanisms for rehabilitating public and private high hazard dams within the Commonwealth, in accordance with KRS 146.110 (HB6 2024). Data presented herein was validated on August 21, 2024. Please find included the 2024 High Hazard Dam Rehabilitation Report and enclosed Workbook. If you have any questions or would like additional information, please contact me at 502-782-6953 or [sarah.gaddis@ky.gov](mailto:sarah.gaddis@ky.gov), Shawn Hokanson at 502-782-6977 or [shawn.hokanson@ky.gov](mailto:shawn.hokanson@ky.gov), or Glen Alexander at 502-782-6874 or [Glen.Alexander@ky.gov](mailto:Glen.Alexander@ky.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Sarah Jon Gaddis".

Sarah Jon Gaddis, P.G., Director  
Kentucky Division of Water  
Department for Environmental Protection

Enclosure

## Introduction

As required in HB6 of the 2024 Regular Session of the General Assembly, the Energy and Environment Cabinet, Department for Environmental Protection submits a report recommending the priority ranking and funding mechanisms for the rehabilitation of public and private High Hazard dams.

The DEP regulates one hundred seventy-six (176) dams rated High Hazard in Kentucky. The most recent inspections for these structures show twenty-two (22) rated Satisfactory, sixty-six (66) rated Fair, and eighty-eight (88) rated Poor or Unsatisfactory, on the National Inventory of Dams (NID) condition assessment.

## Rehabilitation Prioritization

To prioritize for rehabilitation, DEP excluded:

- Eighty-eight (88) dams rated Satisfactory or Fair because rehabilitation is not currently required or anticipated based on inspection trends; and
- Seventeen (17) dams rated Poor only for maintenance reasons because those items are not currently impacting the structural stability of the dam and is otherwise compliant with all applicable regulations.

Of the remaining seventy-one (71) High Hazard dams, DEP first prioritized those rated Unsatisfactory above those rated Poor, and then used the Federal Emergency Management Agency's (FEMA) Decision Support System for Water Infrastructure Security (DSS-WISE) dam breach modeling tool to develop Population at Risk (PAR) data to prioritize sixty-five (65) of those dams based on screening level risk (this data was unavailable for the remaining 6 dams). DEP sorted the final list to make Unsatisfactory dams the highest priority, which were then ranked by PAR, and finally by total points assigned for structural and hydraulic deficiencies. Dams are sorted by highest priority ranking of 1 to lower priority of 71. The six dams with no available PAR data were included at the bottom of the list (after those with PARs), then sorted by the reason for the Unsatisfactory/Poor rating (3 points for structural/1 point for hydraulic), and finally sorted by highest to lowest total points.

Of the seventy-one (71) total prioritized dams:

- Thirteen (13) are under an enforcement action or are the subject of current legal cases to compel dam remediation; and
- Seven (7) have improvements or mitigation in development or in progress.

Of the Top 20 prioritized dams:

- Nine (9) are under an enforcement action or are the subject current legal cases to compel dam remediation; and

- Three (3) have improvements or mitigation in development or in progress.

### Funding Mechanisms

The DEP notes that engineering expertise, materials, and other items required for dam repair are extremely expensive. Since 2019, approximately \$25 million in State Owned Dam Repair (SODR) funds have been expended for extensive repairs to two state-owned dams in Kentucky (Bullock Pen Lake Dam and Scenic Lake Dam). To be eligible for SODR funding, dams must be owned by the Commonwealth per KRS 151.291. SODR projects in development are Willisburg Lake Dam (current estimate ranges from \$25 - \$30 million) and Clements Lake Dam (current estimate ranges from \$15 - 20 million). Since private owners of dams are not required to report amounts spent to repair their dams, the DEP is unable to assess additional monies spent on those projects.

Of the prioritized dams in the attached list, SODR funding is available for four (4) dams - Boltz Lake Dam, Mud River MPS 51, Marion County Sportsman's Dam, and Willisburg Lake Dam (with prioritization ratings of 31, 43, 47 and 63, respectively). Willisburg Lake Dam has an active, funded SODR project currently in the engineering design phase with construction scheduled to begin in late 2025 or early 2026.

Funding mechanisms for dam repair include the following:

1. USDA Natural Resources Conservation Service-prioritized funding for Watershed Protection and Flood Prevention Act (PL-566) structures with state or local funding match requirements. HB 1 2022 RS authorized 5,000,000 in FY23 for the Soil and Water Conservation Commission (KRS146.110) to leverage federal and local funds to establish a Watershed Dam Infrastructure Revolving Fund for the purpose of rehabilitating non-compliant or high hazard Kentucky watershed dams. This funding is being used as match with federal USDA NRCS funding.
2. State or Federal appropriations/earmarks for repair of specific SODR dam(s).
3. Local community or dam owner funding.

### PRIORITIZATION TABLE KEY:

**Red** - under enforcement action and/or subject of litigation/court proceedings

**Blue** - eligible for SODR funding

**Orange** - currently have improvements or mitigation in development or in progress

(Additional information regarding the status / needs of each dam is available in the attached spreadsheets that use the same color-coding schematic.)

<b>NID DAM ID</b>	<b>DAM NAME</b>	<b>COUNTY</b>	<b>NID CONDITION</b>	<b>OWNER NAME</b>	<b>FINAL RANKING</b>
00113	ELKHORN LAKE DAM	Letcher	Unsatisfactory	City of Jenkins	1
00393	SALT LICK CREEK FRS 1	Menifee	Unsatisfactory	Salt Lick Creek Watershed Conservancy District	2
00508	MCKEE CITY RESERVOIR DAM	Jackson	Unsatisfactory	City of McKee	3
01267	Bluefield Dam	Boone	Unsatisfactory	Louise and Taryn Gaines, Amy D. Gamer, Katherine and Clifford Moore, Christopher and Melissa Tepe	4
00026	RICE LAKE DAM	Lincoln	Unsatisfactory	City of Stanford	5
00098	TANK POND DAM	Boyle	Unsatisfactory	Kim Gilliam	6
00194	MELVIN STINSON LAKE DAM	Todd	Unsatisfactory	City of Elkton	7
00998	OTTER LAKE DAM NO 2	Hopkins	Unsatisfactory	Otter Lake Owners Assoc	8
00148	LOCH MARY RESERVOIR DAM	Hopkins	Unsatisfactory	City of Earlington	9
00108	PANBOWL LAKE DAM	Breathitt	Poor	Kentucky Transportation Cabinet (KYTC)	10
00209	LEXINGTON RESERVOIR NO 3 DAM	Fayette	Poor	Lakeview Estates Assoc	11
01224	KYTC Bioretention Dam	Kenton	Poor	Kentucky Transportation Cabinet (KYTC)	12
00598	WINDSOR FOREST DAM	Jefferson	Poor	Windsor Forest Assoc	13
00607	DUNCAN NAVE DAM	Jessamine	Poor	City of Nicholasville	14
00072	Lower Berea Reservoir Dam	Madison	Poor	Berea Municipal Utilities	15
00157	NORTONVILLE LAKE DAM	Hopkins	Poor	City of Nortonville	16
01011	SALT LICK CREEK MPS 3	Bath	Poor	Salt Lick Creek Watershed Conservancy District	17
00101	RENFRO DAM	Rockcastle	Poor	Kentucky Transportation Cabinet (KYTC)	18
00355	SALT LICK CREEK FRS NO 5	Bath	Poor	Salt Lick Creek Watershed Conservancy District	19
00769	RED LICK CREEK MPS 1	Madison	Poor	Berea Municipal Utilities	20
00210	LEXINGTON RESERVOIR NO 4	Fayette	Poor	Kentucky American Water Company	21
00844	MITCHELL HILL LAKE DAM	Jefferson	Poor	Louisville Metro Parks & Recreation Dept	22
00289	FORDSVILLE LAKE DAM	Ohio	Poor	Cassi Gibson	23
01004	Lower Eagle Creek Dam	Oldham	Poor	City of La Grange	24
01047	STEWART CREEK FRS NO 2	Hopkins	Poor	City of Earlington	25
01041	STEWART CREEK FRS NO 1	Hopkins	Poor	City of Earlington	26
00053	CAMPTON LAKE DAM	Wolfe	Poor	City of Campton	27
00766	RED LICK CREEK FRS 12	Madison	Poor	Red Lick Creek Watershed Conservancy District	28
00041	CAMPBELL COUNTY LAKE DAM	Campbell	Poor	Campbell Co Fiscal Court	29
00112	LAKE CARNICO DAM	Nicholas	Poor	Nicholas Co Fiscal Court	30

<b>NID DAM ID</b>	<b>DAM NAME</b>	<b>COUNTY</b>	<b>NID CONDITION</b>	<b>OWNER NAME</b>	<b>FINAL RANKING</b>
00032	BOLTZ LAKE DAM	Grant	Poor	KY Dept of Fish & Wildlife Resources (KDFWR)	31
00272	FOX CREEK FRS 6A	Fleming	Poor	Fox Creek Watershed Conservancy District	32
00987	MAPLE LEAF DAM	Ohio	Poor	Linda Jakab	33
00858	OTTER LAKE DAM	Hopkins	Poor	Ron Segebarth, Christopher Peers	34
00654	Lower Alexandria Dam	Campbell	Poor	City of Alexandria	35
00477	BONITA LAKE	Boyd	Poor	Howard Crabtree	36
00300	CRYSTAL LAKE DAM	Oldham	Poor	Crystal Lake Dev	37
00533	Upper Alexandria Dam	Campbell	Poor	City of Alexandria	38
00298	MILL CREEK MPS NO 4	Monroe	Poor	City of Tompkinsville	39
00354	FOX CREEK FRS NO 3	Fleming	Poor	Fox Creek Watershed Conservancy District	40
00060	EMINENCE LAKE DAM	Henry	Poor	Leon Leonard, Paul Fister	41
00036	KINCAID CREEK DAM	Pendleton	Poor	Kentucky Department of Parks	42
00110	MUD RIVER MPS 51	Muhlenberg	Poor	KY Dept of Fish & Wildlife Resources (KDFWR)	43
00330	PLUM CREEK FRS NO 3	Shelby	Poor	Plum Creek Watershed Conservancy District	44
00187	HOMESTEAD LAKE DAM	Hopkins	Poor	Homestead Lake LLC	45
01247	Otter Lake Dam 3	Hopkins	Poor	Robert Hulbig	46
00020	MARION COUNTY SPORTSMANS DAM	Marion	Poor	KY Dept of Fish & Wildlife Resources (KDFWR)	47
00040	GUIST CREEK LAKE DAM	Shelby	Poor	KY Dept of Fish & Wildlife Resources (KDFWR)	48
00048	Taylor Fork Lake Dam	Madison	Poor	Madison Co Fiscal Court	49
00052	BEAVER LAKE DAM	Anderson	Poor	KY Dept of Fish & Wildlife Resources (KDFWR)	50
00584	WALKER CONSTRUCTION DAM	Menifee	Poor	Walker Co of KY Inc	51
00204	CANEY CREEK FRS 6	Grayson	Poor	Caney Creek Conservation District	52
00200	EAST FORK CLARKS RIVER FRS 32	Marshall	Poor	Marshall Co Conservation District	53
01266	Lakewood Baptist Church Dam	Jefferson	Poor	Lakewood Baptist Church	54
00202	EAST FORK CLARKS RIVER FRS 33	Marshall	Poor	Marshall Co Conservation District	55
00051	CORINTH LAKE DAM	Grant	Poor	Kentucky Transportation Cabinet (KYTC)	56
00074	CARLISLE LOWER RESERVOIR DAM	Nicholas	Poor	City of Carlisle	57
00145	LAKE PEEWEE DAM	Hopkins	Poor	City of Madisonville	58
00546	QUINN DAM	Hancock	Poor	Ray Quinn	59
01248	Bryan Lake Dam	Muhlenberg	Poor	Eddie M. Vincent	60
00828	WEST FORK MAYFIELD CREEK FRS 16	Carlisle	Poor	West Fork Mayfield Creek Watershed Conservancy District	61

<b>NID DAM ID</b>	<b>DAM NAME</b>	<b>COUNTY</b>	<b>NID CONDITION</b>	<b>OWNER NAME</b>	<b>FINAL RANKING</b>
00068	WEST FORK CLARKS RIVER FRS 20	Graves	Poor	Graves Co Conservation District	62
00103	WILLISBURG LAKE DAM	Washington	Poor	KY Dept For Environmental Protection	63
00455	CAMP PENNYROYAL LAKE	Daviess	Poor	Pennyroyal Girl Scout Camp	64
00313	ZACHARIAH LAKE DAM	Lee	Poor	Bretagne	65
01275	Heartbeat Ridge Dam 1	Harrison	Poor	Matt Shotwell	66
01032	CHAMBERLAIN BRANCH FRS 1	Estill	Poor	Estill Co Fiscal Court	67
01136	COUNTY SQUIRE (LOWER)	Kenton	Poor	Squire Valley Homeowners Association	68
01122	PIGEON ROOST CREEK MPS 1	Jackson	Poor	City of McKee	69
00066	LAKE REBA DAM	Madison	Poor	City of Richmond	70
01089	PIGEON ROOST CREEK FRS NO 2	Jackson	Poor	City of McKee	71