



**US Army Corps
of Engineers**

Alum Creek

Scioto River, OH



Project Features

- Authorization: Section 203 of Flood Control Act of 1962.
- Primary project purposes are flood risk reduction, water supply for the Columbus metropolitan area, fish and wildlife and recreation.
- Dam was completed in August 1974 and serves a drainage area of 123 square miles.
- The lake is impounded by a rolled earthfill dam, 93 ft. tall and 10,200 ft. long with a gated concrete spillway.
- The spillway is gated concrete in the channel section of the dam with three tainter gates supported by 8 ft. piers.
- A 60-inch diameter low flow conduit discharges to the stilling basin and a 60-inch diameter water supply pipe extends to downstream pumping facilities.
- There are four day use recreation areas at the project as well as a Visitor Center.
- Alum Creek State Park comprises most of the recreational facilities on the project.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood risk management mission at this facility would result in the project's inability to adequately execute the flood risk management mission as authorized by Congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 3.2 million visitors annually, contributing \$95 million to the local economy, supporting 1,004 jobs. This represents a sizable component of the economy in the local community.
- Supplies 35 million gallons of water a day to the Columbus metropolitan area with a National Economic Benefit of \$38.5 million.
- The project hosts Alum Creek State Park which includes a 3,000 ft. beach, 297 site campground and two boat marinas.
- The project has prevented over \$260 million in flood damages through FY 2019.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 59 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$584	\$1,215	\$1,799	\$1,057	\$400	\$1,457	\$1,019	\$442	\$1,461
Recreation	\$134	\$114	\$248	\$209	\$62	\$271	\$220		\$220
Environmental Stewardship		\$78	\$78	\$103	\$77	\$180	\$30	\$100	\$130
Water Supply	\$91	\$20	\$111	\$97	\$20	\$117	\$100	\$20	\$120
Total	\$809	\$1,427	\$2,236	\$1,466	\$559	\$2,025	\$1,369	\$562	\$1,931

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$5,552	\$300	Clean Foundation Drains
		\$545	Concrete Spalling Repair
		\$55	Gage Removal
		\$167	Maintenance for Flood Risk Management
		\$3,190	Paint and Repair Alum Creek's Tainter Gates
		\$580	Repair and paint three sluice gate, and tunnel liners (metal portion).
		\$75	Repair Toe Drain
		\$435	Replace Guardrail on spillway bridge to meet new safety standards
		\$205	Replace Tainter Gate Cables
Water Supply	\$443	\$18	Maintenance for Recreation - Maintenance of Visitor Centers
		\$64	Maintenance of Recreation Features
		\$97	Volunteer Campsite
		\$97	Replace deteriorating playground
		\$167	Replace public restroom

Additional Information

- Fee Lands: 8,488 acres
- Flowage Easement Lands: 254 acres
- Project Boundary Line Marked: 44 miles

Congressional Interests

Senator Robert Portman, R-OH
 Senator Sherrod Brown, D-OH
 Congressman Troy Balderson, R-OH-12



**US Army Corps
of Engineers**

Beech Fork Lake

Beech Fork Branch of Twelvepole Creek, WV



Project Features

- Authorization: Section 203 of Flood Control Act of 1962.
- Primary project purposes are flood risk management, recreation, and fish and wildlife.
- The dam was completed in 1977 and serves a drainage area of 78 square miles.
- The lake is impounded by a rolled earth-fill dam, 86 ft. high and 1,080 ft. long.
- The spillway is an uncontrolled 313 ft. concrete lined raceway and stilling basin.
- The intake structure has two gated sluices discharging through a split circle conduit 720 ft. long into a stilling basin. The intake structure also has a dual selective withdrawal system controlled by a hydraulically operated gate.



Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

Regional Importance

- The project averages 751 thousand visitors annually contributing \$23 million to the local economy, supporting 244 jobs.
- The project has prevented over \$65 million in flood damages through FY 2019.
- The project was selected hosts the Beech Fork Lake State Park, which includes 275 campsites, 6 cabins and a swimming pool.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 23 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$944	\$446	\$1,390	\$847	\$409	\$1,256	\$962	\$315	\$1,277
Recreation	\$343	\$50	\$393	\$249		\$249	\$175	\$5	\$180
Environmental Stewardship		\$59	\$59	\$150	\$76	\$226	\$167	\$47	\$214
Total	\$1,287	\$555	\$1,842	\$1,246	\$485	\$1,731	\$1,304	\$367	\$1,671

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$502	\$235	Automate and Install Piezometers Along Conduit
		\$217	Maintenance for Flood Risk Management
		\$50	Replace Inclinometers
Recreation	\$270	\$110	Beech Fork - Walkway repairs
		\$83	Beech Fork Lake - Construct Picnic Shelter at Swim Beach
		\$77	Beech Fork Lake - Resurface Below Dam

Additional Information

- Fee Lands: 12,608 acres
- Flowage Easement Lands: 149 acres
- Project Boundary Line Marked: 43 miles

Congressional Interests

Senator Joe Manchin III, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman Carol Miller, R-WV-03



**US Army Corps
of Engineers®**

Bluestone Lake

New River, WV



Project Features

- Authorization: Section 5 of the Flood Control Act of 1936, amended by section 4 of the FCA of 1938.
- Primary project purposes are flood risk management, fish and wildlife enhancement, recreation, and low flow augmentation.
- The dam was completed in December 1947 and serves a drainage area of 4,603 square miles.
- The lake is impounded by a concrete gravity dam that is 165 ft. tall and 2,048 ft. long.
- The gated spillway is located in the channel section of the dam and is 790 ft. There are twenty-one 30 x 31 ft. lift gates supported by 8 ft. wide piers. There are sixteen 5 ft. 8 in. x 10 ft. sluice gates through the spillway section discharging into the stilling basin, which is formed by a 23 ft. high weir that is 364 feet downstream from the axis of the dam.
- Extensive Dam Safety Assurance Program work is ongoing.
- There are twelve recreation areas including Bluestone State Park.
- Project boundary extends into Virginia and North Carolina.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 1.5 million visitors annually, contributing \$45 million to the local economy, supporting 462 jobs.
- The project has prevented over \$2.5 billion in flood damages through FY 2019.
- The project hosts Bluestone State Park which includes 26 cabins for rent, four separate camping areas, and multiple hiking trails.
- Bluestone Lake is West Virginia's third largest body of water.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 6 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$883	\$3,565	\$4,448	\$1,091	\$608	\$1,699	\$1,124	\$612	\$1,736
Recreation	\$261		\$261	\$256	\$46	\$302	\$155		\$155
Environmental Stewardship		\$154	\$154	\$170	\$115	\$285	\$190	\$224	\$414
Total	\$1,144	\$3,719	\$4,863	\$1,517	\$769	\$2,286	\$1,469	\$836	\$2,305

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$205	\$47	Gage Removal
		\$158	Maintenance for Flood Risk Management
Recreation	\$80	\$80	Maintenance of Recreation Features

Additional Information

- Fee Lands: 21,931 acres
- Flowage Easement Lands: 546 acres
- Project Boundary Line Marked: 111 miles

Congressional Interests

Senator Joe Manchin III, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman Carol Miller, R-WV-03



**US Army Corps
of Engineers**

Burnsville Lake

Little Kanawha River, WV



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are recreation, flood risk management, fish and wildlife, and water quality control.
- Dam was completed in January 1976 and serves a drainage area of 165 square miles.
- The lake is impounded by rock-fill embankment and impervious core dam, 89 ft. high and 1,400 ft. long.
- The concrete ogee spillway is controlled by three 42 x 35 ft. crest gates which flows into a 240 ft. long raceway and stilling basin.
- There are ten recreation areas at the project including day use areas and a Corps operated campground.
- Bulltown Historic Area and Weston/Gauley Turnpike are listed on the National Register of Historic Places.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 866 thousand visitors annually, contributing \$24.9 million to the local economy, supporting 265 jobs. This represents a sizable component of the economy in the local community.
- The project has prevented over \$192 million in flood damages through FY 2019.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 440 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.
- The project operates a historic area that is listed on the National Registry of Historic Places. The area includes structures dating back to mid to late 1800's, a Civil War Battlefield, a turn-of-the-century farmstead, and a section of the historic Weston and Gauley Bridge Turnpike.
- Bulltown Campground is one of the most heavily utilized campgrounds in the Huntington District.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$888	\$1,088	\$1,976	\$932	\$570	\$1,502	\$1,149	\$456	\$1,605
Recreation	\$1,073		\$1,073	\$896	\$52	\$948	\$880		\$880
Environmental Stewardship	\$81	\$110	\$191	\$262	\$53	\$315	\$237	\$155	\$392
Total	\$2,042	\$1,198	\$3,240	\$2,090	\$675	\$2,765	\$2,266	\$611	\$2,877

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$441	\$75	Install Piezometers
		\$116	Maintenance for Flood Risk Management
		\$175	MCC Replacement
		\$50	Sedimentation survey
		\$25	Standby Generator Components
Recreation	\$919	\$65	Dredge launch ramps
		\$150	Impact Materials for Campsites, Bulltown Campground
		\$60	Impact Materials for Campsites, Riffle Run Campground
		\$273	Pave campground
		\$65	Replace Patrol Boat
		\$150	Upgrade Bulltown Campground
		\$156	Maintenance of Recreation Features

Additional Information

- Fee Lands: 13,219 acres
- Flowage Easement Lands: 98 acres
- Project Boundary Line Marked: 31 miles

Congressional Interests

Senator Joe Manchin III, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman Alex Mooney, R-WV-02



**US Army Corps
of Engineers®**

Deer Creek Lake

Scioto River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938
- Primary project purposes are flood risk reduction, fish and wildlife enhancement, recreation, and low water augmentation.
- Dam was completed in 1968 and serves a drainage area of 277 square miles.
- The lake is impounded by a rolled earth-fill dam, 93 ft. tall and 3,800ft. long with a gated concrete spillway.
- The spillway is controlled by three tainter gates in the channel section of the dam. The outlet works consist of five sluices at invert elevation 772 and one low flow sluice at elevation 786.
- Other structures include a rolled homogeneous earthen dike 3.8 miles southwest of the dam.
- There are three recreation areas at the project including one Corps of Engineers managed day use area.
- Deer Creek State Park comprises the majority of recreational facilities at the project.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 3.2 million visitors annually, contributing \$92 million to the local economy, supporting 1,041 jobs. This represents a sizable component of the economy in the local community.
- The project hosts Deer Creek State Park which includes 232 electric campsites, 25 cabins, 2 camper cabins, group and equestrian camps, and a 110 room lodge with indoor and outdoor pools, a restaurant and meeting rooms
- The project has prevented over \$50 million in flood damages in FY 2019 with a total of \$170 million in flood damages prevented since construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 64 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$876	\$362	\$1,238	\$949	\$1,985	\$2,934	\$1,025	\$337	\$1,362
Recreation	\$266	\$106	\$372	\$230	\$38	\$268	\$190		\$190
Environmental Stewardship		\$54	\$54	\$155	\$60	\$215	\$167	\$140	\$307
Total	\$1,142	\$522	\$1,664	\$1,334	\$2,083	\$3,417	\$1,382	\$477	\$1,859

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$7,277	\$400	Concrete Spalling Repair
		\$125	Install Piezometers
		\$60	Install Piezometers - New Holland Dike
		\$20	Install Surface Displacement Monuments
		\$77	Maintenance for Flood Risk Management
		\$4,440	Repair and Painting Of Tainter Gates
		\$1,065	Replace Service Bridge Deck
		\$115	Replace storage building
		\$175	Replacement Bulkhead Hatch Cover
Recreation	\$54	\$54	Maintenance of Recreation Features

Additional Information

- Fee Lands: 7,223 acres
- Flowage Easement Lands: 352 acres
- Project Boundary Line Marked: 29 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Steve Stivers, R-OH-15



**US Army Corps
of Engineers®**

Delaware Lake

Olentangy River, OH



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, fish and wildlife, low flow augmentation and recreation.
- Dam was completed in July 1948 and serves a drainage area of 386 square miles.
- The lake is impounded by a rolled earth-fill dam, 92 ft. tall and 18,600 ft. long.
- The spillway is gated concrete in the channel section of the dam with six tainter gates supported by 8 ft. piers and operated by individual electric hoists.
- Outlet works consist of five gated sluices through the spillway section, discharging into a stilling basin. Each sluice is provided with one slide gate hydraulically operated from a gallery within the dam.
- Other structures include Waldo Levee which has two pump stations.
- There are four day use recreation areas at the project.
- Delaware State Park comprises most of the recreational facilities on the project.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 873 thousand visitors annually, contributing \$25.6 million to the local economy, supporting 278 jobs. This represents a sizable component of the economy in the local community.
- The project hosts Delaware State Park which has 211 campsites, 3 yurts, a swimming beach and hiking trails.
- Delaware Lake serves as the Gateway to the Olentangy River which is Ohio's second designated Scenic River.
- Waldo Levee protects the village of Waldo, OH which is located 9 miles upstream from the dam.
- The project prevented \$79 million in flood damages in FY 2019 with an accumulative total of \$293 million in flood damages prevented since construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 36 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$798	\$1,324	\$2,122	\$995	\$520	\$1,515	\$980	\$1,672	\$2,652
Recreation	\$167	\$50	\$217	\$146	\$56	\$202	\$160		\$160
Environmental Stewardship		\$54	\$54		\$60	\$60	\$430	\$83	\$513
Total	\$965	\$1,428	\$2,393	\$1,141	\$636	\$1,777	\$1,570	\$1,755	\$3,325

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$5,921	\$545	Concrete Spalling Repair
		\$77	Encroaching Vegetation Removal
		\$42	Install septic system & construct restroom at shop
		\$117	Machine Guarding
		\$83	Maintenance for Flood Risk Management
		\$242	Paint and repair Misc Metals on Bridge
		\$125	Replace Patrol Boat
		\$4,000	Restore Bridge to Designed Capacity
Recreation	\$55	\$690	Tainter Gates Repair, Cleaning, and Painting
		\$85	Upgrade recreation area restroom
		\$55	Maintenance of Recreation Features

Additional Information

- Fee Lands: 7,703 acres
- Flowage Easement Lands: 2,428 acres
- Project Boundary Line Marked: 30 miles

Congressional Interests

Senator Sherrod Brown D-OH
 Senator Robert Portman R-OH
 Congressman Troy Balderson R-OH-12



**US Army Corps
of Engineers**

Dewey Lake

Big Sandy River, KY



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, fish and wildlife enhancement and recreation.
- Dam was completed in July 1949 and serves a drainage area of 206 square miles.
- The lake is impounded by a rolled earthfill dam, 118 ft. tall and 913 ft. long with an uncontrolled saddled spillway located at the left abutment of the dam.
- Outlet works include an intake structure with three gated sluices that discharge through a horseshoe tunnel in the left abutment into a stilling basin.
- Minimum pool is maintained by a wood bulkhead gravity weir which is located in front of the middle gate.
- Other structures include Brandykeg Dike, four miles south of the dam.
- The project has 11 recreation areas including Jenny Wiley State Park.



Regional Importance

- The project averages 1.1 million visitors annually, contributing \$30.5 million to the local economy, supporting 333 jobs. This represents a sizable component of the economy in the local community.
- The project hosts Jenny Wiley State Park which offers campsites, cabins, and a 49-room lodge with outdoor pool, meeting room and restaurant.
- The project prevented over \$25 million in flood damages in FY 2019 with an accumulative total of \$166 million in flood damages prevented since the construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 13 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$988	\$2,458	\$3,446	\$891	\$640	\$1,531	\$1,100	\$740	\$1,840
Recreation	\$280		\$280	\$284	\$30	\$314	\$200		\$200
Environmental Stewardship		\$54	\$54	\$71	\$70	\$141	\$10	\$65	\$75
Total	\$1,268	\$2,512	\$3,780	\$1,246	\$740	\$1,986	\$1,310	\$805	\$2,115

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$1,112	\$20	Install Spillway Drains
		\$1,092	Sandblast and paint steel truss and repair/replace curb and railing on intake structure bridge

Additional Information

- Fee Lands: 12,437 acres
- Flowage Easement Lands: 1,165 acres
- Project Boundary Line Marked: 47 miles

Congressional Interests

Senator Mitch McConnell, R-KY
 Senator Rand Paul, R-KY
 Congressman Hal Rogers, R-KY-05



**US Army Corps
of Engineers**

Dillon Lake

Licking River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, low flow augmentation and recreation.
- Dam was completed in July 1959 and serves a drainage area of 748 square miles.
- The lake is impounded by a rolled earthfill impervious core dam, 118 ft. tall and 1,400 ft. long with an uncontrolled, partial concrete lined spillway near the left abutment of the dam.
- The outlet works include an intake structure with three sluice gates that discharge through a conduit into a stilling basin. Two conduits located around the gates of the outer sluices are used to maintain minimum pool.
- Other structures include two earthfill dikes.
- There are four day use recreation areas at the project.
- Dillon Lake State Park comprises most of the recreational facilities on the project.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 1.3 million visitors annually, contributing \$37 million to the local economy, supporting 416 jobs. This represents a sizable component of the economy in the local community.
- The project hosts Dillon Lake State Park which includes a 195 site campground, 29 cabins, picnic shelters, hiking, biking and equestrian trails.
- The project has prevented over \$41 million in flood damages in FY 2019 with a accumulative total of \$1 billion in damages prevented since construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 45 recreational programs in FY 2019 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$887	\$416	\$1,303	\$879	\$903	\$1,782	\$1,008	\$1,996	\$3,004
Recreation	\$97	\$41	\$138	\$164	\$18	\$182	\$160		\$160
Environmental Stewardship		\$54	\$54	\$173	\$67	\$240	\$202	\$73	\$275
Total	\$984	\$511	\$1,495	\$1,216	\$988	\$2,204	\$1,370	\$2,069	\$3,439

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$2,280	\$87	Compose and publish an Operations and Maintenance Manual for Pleasant Valley Dike
		\$87	Compose and publish an Operations and Maintenance Manual for Rail Road Closure
		\$117	Dillon, Gabion Mesh On Outflow
		\$47	Gage Removal
		\$132	Light-emitting diode Parking lot / building lighting
		\$83	Maintenance for Flood Risk Management
		\$582	Repair and paint three sluice gate, and tunnel liners (metal portion).
		\$360	Repair deteriorated concrete dam embankment railroad closure sill
		\$500	Replacement of Corrugated Metal Pipe
		\$85	Sedimentation survey
		\$100	Study Low Areas in Reservoir Rim
Recreation	\$112	\$100	Verify Subsurface Conditions - Pleasant Valley Dike
		\$55	Maintenance of Recreation Features
		\$57	Install Volunteer Campsite

Additional Information

- Fee Lands: 7,797 acres
- Flowage Easement Lands: 5,282 acres
- Project Boundary Line Marked: 60 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Troy Balderson, R-OH-12
 Congressman Bill Johnson, R-OH-06



**US Army Corps
of Engineers**

East Lynn Lake

East Fork of Twelvepole Creek



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, water quality, fish and wildlife enhancement and recreation.
- Dam was completed in April 1971 and serves a drainage area of 133 square miles.
- The lake is impounded by a rolled earthfill dam, 113 ft. tall and 652 ft. long with an uncontrolled saddle spillway.
- Outlet works include an intake structure with a concrete lined circular tunnel, outlet monolith, and transition with three hydraulically operated slide gates. The low flow system has two inlets and are discharged by a hydraulically operated gate valve.
- There are eight recreation areas at the project, including a Corps of Engineers managed campground.
- Hatfield McCoy Trail proposal under consideration.
- BLM awarded a lease to mine coal within project boundaries

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 429 thousand visitors annually, contributing \$11 million to the local economy, supporting 122 jobs. This represents a sizable component of the economy in the local community.
- East Fork Campground, managed by the Corps, includes 165 campsites, a swimming beach and hiking trails.
- The project prevented over \$35 million in flood damages in FY 2019 with an accumulative total of \$150 million in damages prevented since construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$1,026	\$566	\$1,592	\$1,058	\$835	\$1,893	\$1,389	\$379	\$1,768
Recreation	\$507		\$507	\$480		\$480	\$712		\$712
Environmental Stewardship		\$84	\$84	\$221	\$50	\$271	\$160	\$20	\$180
Total	\$1,533	\$650	\$2,183	\$1,759	\$885	\$2,644	\$2,261	\$399	\$2,660

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$316	\$55	Gage Removal
		\$261	Maintenance for Flood Risk Management
		\$341	Upgrade Electrical Pedestals in Areas 1, 2, and 4 of East Fork Campground to 50 Amp Service
Recreation	\$1,589	\$1,028	Pave East Fork Recreation Area
		\$220	East Lynn Lake - Replace East Fork Launch Ramp restroom with a Pre-Fab
Environmental Stewardship	\$30	\$30	Wildlife Habitat Management, Maintenance for Environmental Stewardship

Additional Information

- Fee Lands: 24,821 acres
- Flowage Easement Lands: 26 acres
- Project Boundary Line Marked: 57 miles

Congressional Interests

Senator Joe Manchin III, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman Carol Miller, R-WV-03



**US Army Corps
of Engineers**

Fishtrap Lake

Big Sandy River, KY



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, fish and wildlife enhancement, water quality and recreation.
- Dam was completed in February 1969 and serves a drainage area of 392 square miles.
- The lake is impounded by a rolled rock impervious core dam, 195 ft. tall and 1,100 ft. long with a spillway controlled by four gates in the left abutment of the dam.
- Outlet works include an intake structure with three conduits controlled by slide gates and discharges into a horseshoe tunnel. Outlet works are provided with three low flow intakes, all of which discharge into a common well which discharges into a low flow conduit. Low flow discharge is controlled by a hydraulically operated slide gate.
- The project has 9 recreation areas, 5 of which are Corps managed.



Regional Importance

- The project averages 545 thousand visitors annually, contributing \$15.6 million to the local economy, supporting 163 jobs. This represents a sizable component of the economy in the local community.
- The project hosts Fishtrap Lake State Park which offers several picnic areas, a playground and a marina.
- The project prevented an accumulative total of over \$926 million in flood damages since the construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 15 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$1,026	\$600	\$1,626	\$1,059	\$1,306	\$2,365	\$1,209	\$676	\$1,885
Recreation	\$178		\$178	\$291		\$291	\$400		\$400
Environmental Stewardship		\$54	\$54		\$651	\$651	\$18	\$45	\$63
Total	\$1,204	\$654	\$1,858	\$1,350	\$1,957	\$3,307	\$1,627	\$721	\$2,348

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$1,077	\$94	Fishtrap Lake - Design and build new mattress bulkhead
		\$603	Fishtrap Lake - Repair spalling concrete on tainter gate abutments
		\$110	Fishtrap Lake - Replace Windows in Control Structure
		\$60	Install Piezometers
		\$85	Sedimentation survey
		\$125	Remove Drift and Debris - Fishtrap
Recreation	\$1,335	\$621	Fishtrap Lake - Resurface/Pave Asphalt at Project Recreation Areas
		\$549	Fishtrap Lake - Relocate the Marina to a tributary location
		\$165	Fishtrap Lake - Install water and electric to remaining camp sites at Grapevine Campground

Additional Information

- Fee Lands: 15,786 acres
- Flowage Easement Lands: 203 acres
- Project Boundary Line Marked: 43 miles

Congressional Interests

Senator Mitch McConnell, R-KY
 Senator Rand Paul, R-KY
 Congressman Hal Rogers, R-KY-05



**US Army Corps
of Engineers**

Grayson Lake

Little Sandy River, KY



Project Features

- Authorization: Section 203 of Flood Act of 1960.
- Primary project purposes are flood risk management, water quality, water supply and recreation.
- Dam was completed in January 1968 and serves a drainage area of 196 square miles.
- The lake is impounded by an earth and random rock-fill dam, 120 ft. tall and 1,460 ft. long with an uncontrolled, broad-crested saddle spillway located at the left abutment of the dam.
- Outlet works include an intake structure with three sluices controlled by hydraulically operated slide gates and discharges through a circular tunnel through the left abutment of the dam. The low flow system has two inlets with discharge controlled by a hydraulically operated gate valve.
- The project has 6 recreation areas including Grayson Lake State Park.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 615 thousand visitors contributing \$17.8 million to the local economy, supporting 197 jobs. This represents a sizable component of the economy in the local community.
- The project hosts Grayson Lake State Park which offers 71 campsites, many miles of hiking trails, and a highly rated public golf course.
- Supplies 7.5 million gallons of municipal water a day to 10,000 citizens in Carter and Elliott Counties, KY.
- The project prevented over \$4.6 million in flood damages in FY 2019 with an accumulative total of \$170 million in flood damages prevented since the construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 25 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$783	\$294	\$1,077	\$821	\$572	\$1,393	\$1,017	\$366	\$1,383
Recreation	\$48		\$48	\$214		\$214	\$150		\$150
Environmental Stewardship		\$54	\$54	\$37		\$37	\$24	\$300	\$324
Water Supply	\$16	\$16	\$32	\$275	\$16	\$291	\$25	\$16	\$41
Total	\$847	\$364	\$1,211	\$1,347	\$588	\$1,935	\$1,216	\$682	\$1,898

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$425	\$260	Maintenance for Flood Risk Management
		\$165	Replace 1987 5-ton dumptruck-Grayson Lake
Recreation	\$872	\$66	Courtesy boat dock - Grayson Lake
		\$806	Grayson Lake - Resurface roadways in recreation areas and pave gravel parking areas

Additional Information

- Fee Lands: 16,934 acres
- Flowage Easement Lands: 151 acres
- Project Boundary Line Marked: 147 miles

Congressional Interests

Senator Mitch McConnell, R-KY
 Senator Rand Paul, R-KY
 Congressman Hal Rogers, R-KY-05



**US Army Corps
of Engineers**

John W. Flannagan Dam and Reservoir

Pound River, VA



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, water supply, low-flow augmentation, fish and wildlife enhancement, recreation and water quality.
- Dam was completed in December 1963 and serves a drainage area of 221 square miles.
- The lake is impounded by a rolled earthfill dam, 250 ft. tall and 916 ft. long with a controlled spillway with six tainter gates located 0.3 miles south of the dam.
- Outlet works include an intake structure with two water passages controlled by slide gates discharging into a horseshoe tunnel through the left abutment of the dam. The low flow system has three bypass conduits with valve control inlets.
- The project has 15 recreation areas including Corps managed day use areas and a campground.



Regional Importance

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

- The project averages 376 thousand visitors contributing \$11 million to the local economy, supporting 117 jobs. This represents a sizable component of the economy in the local community.
- Supplies 10 million gallons of municipal water a day to 30,000 citizens in Dickenson, Wise, Russell, Tazwell and Buchanan counties, VA.
- The project prevented over \$524 million in flood damages since the construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 23 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$869	\$1,741	\$2,610	\$1,137	\$663	\$1,800	\$1,021	\$594	\$1,615
Recreation	\$171		\$171	\$390		\$390	\$665		\$665
Environmental Stewardship		\$74	\$74	\$150	\$55	\$205	\$160	\$45	\$205
Water Supply	\$17	\$16	\$33	\$22	\$16	\$38	\$22	\$16	\$38
Total	\$1,057	\$1,831	\$2,888	\$1,699	\$734	\$2,433	\$1,868	\$655	\$2,523

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$4,090	\$60	ADAS Piezometers
		\$15	Install Seismograph
		\$30	Install Weir
		\$3,750	John W Flannagan Dam & Reservoir - Repair Slip behind Project Office
		\$50	Repair and Install New Electrical Conduit at Spillway Bridge
		\$85	Sedimentation survey
		\$100	Water Quality Gate #3 Cavitation Repair
Environmental Stewardship	\$25	\$25	Forest Management, Maintenance for Environmental Stewardship

Additional Information

- Fee Lands: 7,509 acres
- Flowage Easement Lands: 92 acres
- Project Boundary Line Marked: 64 miles

Congressional Interests

Senator Tim Kaine, D-VA
 Senator Mark Warner, D-VA
 Congressman Morgan Griffith, R-VA-09



**US Army Corps
of Engineers**

North Branch of Kokosing River Lake

Kokosing River, OH



Project Features

- Authorization: Section 203 of Flood Control Act of 1962.
- Primary project purposes are flood risk reduction, fish and wildlife and recreation.
- Dam was completed in May 1972 and serves a drainage area of 44.5 square miles.
- The lake is impounded by a earth-fill dam, 70.5 ft. tall and 1,400 ft. long with an uncontrolled spillway.
- Outlet works consist of 560 ft. long, 3.5 x 6.75 ft. reinforced concrete rectangular conduit.
- The majority of the project property is leased by ODNR for fish and wildlife management. ODNR manages the lake and 959 acres of public hunting area.
- Recreation facilities include three day use areas, two of which are managed by the Corps of Engineers.
- Kokosing Lake Campground is located on the banks of Kokosing Lake and is leased by the Muskingum Watershed Conservancy District.



Regional Importance

- The project averages 127 thousand visitors annually, contributing \$3.9 million to the local economy, supporting 43 jobs.
- The project hosts Kokosing Lake Campground which includes 46 campsites, restrooms and a shower facility.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$395	\$143	\$538	\$358	\$188	\$546	\$344	\$177	\$521
Recreation	\$8	\$5	\$13	\$23	\$7	\$30	\$15		\$15
Environmental Stewardship		\$5	\$5	\$150	\$5	\$155	\$100	\$5	\$105
Total	\$403	\$153	\$556	\$531	\$200	\$731	\$459	\$182	\$641

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$945	\$75	Clean Relief Wells
		\$70	Instrumentation
		\$50	Lidar Scan
		\$750	Replace non-functional relief wells

Additional Information

- Fee Lands: 1,212 acres
- Flowage Easement Lands: 496 acres
- Project Boundary Line Marked: 6 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bob Gibbs, R-OH-07



**US Army Corps
of Engineers®**

North Fork of Pound River Lake

Pound River, VA



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, water supply, fish and wildlife enhancement, and recreation.
- Dam was completed in January 1966 and serves a drainage area of 17.2 square miles.
- The lake is impounded by a rock-fill dam with an impervious core, 122 ft. tall and 600 ft. long with an uncontrolled saddle spillway.
- Outlet works include an intake structure with three sluice gates that discharge through a horseshoe tunnel through the right abutment of the dam. A duel selective withdrawal system bypasses the main gates.
- The project has one Corps managed day use area.
- Ownership of the land surrounding the lake was transferred to the U.S. Forest Service in 1983.



Regional Importance

- The project averages 99 thousand visitors contributing \$2.7 million to the local economy, supporting 29 jobs. This represents a sizable component of the economy in the local community.
- Supplies 300 thousand gallons of municipal water a day to the residents of Pound, VA with a National Economic Benefit of \$330 thousand
- The project prevented over \$39 million in flood damages since the construction of the project.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$488	\$311	\$799	\$405	\$184	\$589	\$642	\$187	\$829
Recreation	\$15		\$15	\$38		\$38	\$10		\$10
Environmental Stewardship		\$5	\$5	\$100	\$5	\$105	\$100	\$10	\$110
Water Supply	\$15	\$14	\$29	\$19	\$14	\$33	\$19	\$14	\$33
Total	\$518	\$330	\$848	\$562	\$203	\$765	\$771	\$211	\$982

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$600	\$550	North Fork of Pound - Correct spillway elevation
		\$50	Sedimentation survey

Additional Information

- Fee Lands: 90 acres
- Flowage Easement Lands: 0.1 acres
- Project Boundary Line Marked: 2 miles

Congressional Interests

Senator Tim Kaine, D-VA
 Senator Mark Warner, D-VA
 Congressman Morgan Griffith, R-VA-09



**US Army Corps
of Engineers®**

Paint Creek Lake

Paint Creek, OH



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are flood risk reduction, water supply, low-flow augmentation, fish and wildlife enhancement, recreation and water quality improvement.
- Dam was completed in July 1973 and serves a drainage area of 576 square miles.
- The lake is impounded by an earth and rock-fill embankment dam, 118 ft. tall and 700 ft. long with a controlled spillway with three tainter gates supported by 10 ft. piers.
- Outlet works include an intake structure with two hydraulic tractor gates which discharge through a circular tunnel into a jump-type stilling basin. The low flow system has two inlets with discharge controlled by a single slide gate.
- Other structures include one random earth and rock-fill dike at the right abutment of the spillway, a random earth and rock-fill levee located 7 miles northwest of the dam, and Little Pond Dam.
- The project has 3 recreation areas.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 955 thousand visitors contributing \$27.6 million to the local economy, supporting 304 jobs. This represents a sizable component of the economy in the local community.
- The project prevented over \$54 million in flood damages in FY 2019 with a accumulative total of \$243 million in flood damages prevented since the construction of the project.
- A levee 7 miles northwest of the dam protects the city of Greenfield, OH waste water treatment plant.
- The project has the ability to supply 4 million gallons of water per day with a National Economic Benefit of \$4.4 million.
- A preliminary permit has been issued for hydropower development at Paint Creek Lake. The proposed project would include two turbines with a total capacity of 2,140 kilowatts.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 7 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$904	\$406	\$1,310	\$1,021	\$1,494	\$2,515	\$877	\$873	\$1,750
Recreation	\$102	\$44	\$146	\$185	\$18	\$203	\$172		\$172
Environmental Stewardship		\$54	\$54	\$180	\$80	\$260	\$167	\$87	\$254
Water Supply	\$7	\$6	\$13	\$14	\$6	\$20	\$15	\$6	\$21
Total	\$1,013	\$510	\$1,523	\$1,400	\$1,598	\$2,998	\$1,231	\$966	\$2,197

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$3,251	\$15	Purchase of a Boom Lift
		\$55	Gage Removal
		\$376	Greenfield Levee Seperate Relief Well and sewage conduit
		\$89	Maintenance for Flood Risk Management
		\$580	Repair and paint three sluice gate, and tunnel liners (metal portion).
		\$870	Repair Concrete Under Tainter Gate Machinery and Trunion Arms
		\$21	Replacement Mule/ATV
		\$85	Sedimentation survey
		\$570	Service Bridge Repair, Sandblast, and Paint Bridge Members
		\$590	Spillway Bridge Repair, Sandblast, and Paint Bridge Members
Recreation	\$438	\$160	Widen Access Road to Fishing Pier
		\$222	Replace restroom
		\$56	Maintenance of Recreation Features

Additional Information

- Fee Lands: 9,614 acres
- Flowage Easement Lands: 568 acres
- Project Boundary Line Marked: 53 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Brad Wenstrup, R-OH-02



**US Army Corps
of Engineers®**

Paintsville Lake

Paint Creek, KY



Project Features

- Authorization: Section 204 of Flood Control Act of 1965.
- Primary project purposes are flood risk reduction, water supply, low-flow augmentation, fish and wildlife enhancement, and recreation.
- Dam was completed in 1983 and serves a drainage area of 92.5 square miles.
- The lake is impounded by a rock-fill dam with an impervious core, 160 ft. tall and 1,600 ft. long with an uncontrolled broad-crested spillway.
- Outlet works include an intake structure with three gated sluices discharging into a stilling basin. Two selective withdrawal wells have 10 inlets at five different elevations. The discharge for the selective withdrawal wells are controlled by a slide gate and a 10 inch bypass in each well.
- The project has 8 recreation areas including Paintsville Lake State Park and an historic area listed on the National Registry of Historic Places.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 1 million visitors contributing \$31.5 million to the local economy, supporting 340 jobs. This represents a sizable component of the economy in the local community.
- The project has the ability to supply 6 million gallons of water per day with a National Economic Benefit of \$6.6 million.
- The project prevented over \$106 million in flood damages in FY 2019 with a accumulative total of \$144 million in flood damages prevented since the construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 10 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$848	\$290	\$1,138	\$733	\$407	\$1,140	\$1,011	\$434	\$1,445
Recreation	\$51		\$51	\$119		\$119	\$30		\$30
Environmental Stewardship		\$54	\$54	\$300	\$501	\$801	\$10	\$32	\$42
Water Supply	\$20	\$19	\$39	\$24	\$19	\$43	\$24	\$19	\$43
Total	\$919	\$363	\$1,282	\$1,176	\$927	\$2,103	\$1,075	\$485	\$1,560

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$690	\$20	Automate Weir
		\$55	Gage Removal
		\$75	Paintsville Lake - Provide paved access to below dam outlets
		\$100	Paintsville Lake - Replace 1978 450 dozer
		\$330	Repave maintenance building parking lot
		\$85	Sedimentation survey
		\$25	Toe Drain Inspection

Additional Information

- Fee Lands: 12,981 acres
- Flowage Easement Lands: 106 acres
- Project Boundary Line Marked: 55 miles

Congressional Interests

Senator Mitch McConnell, R-KY
 Senator Rand Paul, R-KY
 Congressman Hal Rogers, R-KY-05



**US Army Corps
of Engineers®**

RD Bailey Lake

Guyandotte River, WV



Project Features

- Authorization: 203 of Flood Control Act of 1962.
- Primary project purposes are flood risk management, water quality and recreation.
- The dam was completed in 1980 and serves a drainage area of 540 square miles.
- The lake is impounded by a rock and random-fill dam with a concrete face and an uncontrolled broad-crested saddle spillway.
- The outlet works include an intake structure with two sluices controlled by hydraulically operated slide gates which discharge through a circular tunnel through the left abutment of the dam. Five intake gates at four different elevations discharge into a sluice for selective withdrawal.
- The project operates its own water treatment system within the public recreation areas due to the remote and rugged terrain of the project.
- There are eight recreation areas including a Corps operated campground and day use areas. The project no longer has a marina concessionaire.



Regional Importance

- The project averages 482 thousand visitors annually, contributing \$14.2 million to the local economy, supporting 2,145 jobs.
- The project prevented over \$7.3 million in flood damages in FY 2019 with an accumulative total of \$431 million in damages prevented since the construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 7 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$1,044	\$348	\$1,392	\$1,306	\$784	\$2,090	\$1,206	\$627	\$1,833
Recreation	\$365		\$365	\$254	\$65	\$319	\$505		\$505
Environmental Stewardship		\$54	\$54		\$128	\$128	\$10	\$142	\$152
Total	\$1,409	\$402	\$1,811	\$1,560	\$977	\$2,537	\$1,721		\$2,490

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$673	\$20	Evaluate Inclinometers
		\$30	Improve spillway access
		\$40	Lidar Scan
		\$126	Maintenance for Flood Risk Management
		\$60	Repair cavitation of sluice gates
		\$125	Upgrade all security lighting on the Dam, Intake Structure, Maintenance Building, Visitor Center
		\$175	Replace LFC Gate
		\$85	Sedimentation survey
Recreation	\$1,713	\$12	Seismograph Power Source
		\$168	Maintenance of Recreation Features
		\$1,119	Sandblast and paint Guyandotte bridge in campground
		\$426	Spot Pave campground access road

Additional Information

- Fee Lands: 18,654 acres
- Flowage Easement Lands: 138 acres
- Project Boundary Line Marked: 69 miles

Congressional Interests

Senator Joe Manchin III, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman Carol Miller, R-WV-03



**US Army Corps
of Engineers**

Summersville Lake

Kanawha River, WV



Project Features

- Authorization: Section 4 of Flood Control Act of 1938.
- Primary project purposes are flood risk management, fish and wildlife enhancement, water quality, recreation, and low flow augmentation.
- The dam was completed in 1966 and serves a drainage area of 803 square miles.
- The lake is impounded by a rock-fill dam with a central impervious core, 390 ft. tall and 1,780 ft. wide, with an uncontrolled saddle spillway.
- Outlet works are located in the right abutment of the dam through a circular tunnel which splits into three conduits. Flow is controlled by fixed cone diversion valves. Low flow is controlled through a 3 ft. conduit with a fixed cone dispersion valve. Conduits and the tunnel can be closed and dewatered with butterfly valves and two sloped sliding gates.
- Other structures include two dikes on the west rim of the reservoir.
- Hydroelectric plant operated on the project.
- There are nine recreation areas including a campground with 376 sites and a marina with 473 slips.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 996 thousand visitors annually, contributing \$31.2 million to the local economy, supporting 328 jobs.
- The project prevented over \$10 million in flood damages in FY 2019 with a cumulative total of \$1 billion in flood damages prevented since the construction of the project.
- The city of Summersville and Gauley River Power Partners operate a hydroelectric plant at the project. The plant includes two turbines with a capacity of 80 Megawatts.
- The project has the ability to supply 4 million gallons of water a day with a National Economic Benefit of \$4.4 million.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 16 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$921	\$404	\$1,325	\$817	\$710	\$1,527	\$1,110	\$424	\$1,534
Recreation	\$860	\$157	\$1,017	\$874	\$17	\$891	\$1,532		\$1,532
Environmental Stewardship	\$150	\$54	\$204		\$113	\$113	\$10	\$142	\$152
Water Supply	\$17	\$16	\$33	\$23	\$17	\$40	\$23	\$17	\$40
Total	\$1,948	\$631	\$2,579	\$1,714	\$857	\$2,571	\$2,675	\$583	\$3,258

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$661	\$55	Gage Removal
		\$140	Intake Gate Knife Valves Replacement
		\$116	Maintenance for Flood Risk Management
		\$185	Piezometer Replacement
		\$85	Replace Outlet Structure Roof
Recreation	\$963	\$80	Spillway Tree Removal, Grading & Leveling
		\$150	Erosion repair of shoreline at Battle Run and Long Point
		\$156	Maintenance of Recreation Features
		\$657	Repair of deteriorated areas and repaving of Battle Run, Long Point and Salmon Run recreation areas

Additional Information

- Fee Lands: 9,346 acres
- Flowage Easement Lands: 443 acres
- Project Boundary Line Marked: 45 miles

Congressional Interests

Senator Joe Manchin III, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman Carol Miller, R-WV-03



**US Army Corps
of Engineers®**

Sutton Lake

Kanawha River, WV



Project Features

- Authorization: section 4 of Flood Control Act of 1938.
- Primary project purposes are flood damage reduction, low flow augmentation and recreation.
- The dam was completed in June 1960 and serves a drainage area of 537 square miles.
- The lake is impounded by a concrete gravity dam, 210 ft. high and 1,178 ft. long, with a gated spillway located in the channel section of the dam. Spillway has a 50 ft. radius bucket and six tainter gates, hydraulically operated from a gallery in the dam, supported by 8 ft. piers.
- The outlet works include five gated sluices and a valve controlled sluice for low flow control, all located through the spillway section and discharging into the spillway bucket.
- Proposed hydropower plant which would include 2-3 turbines with a capacity of 12,000 kilowatts.
- There are nine recreation areas including two Corps operated campgrounds, day use areas, and a privately operated marina.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 451 thousand visitors annually, contributing \$13.1 million to the local economy, supporting 142 jobs which represents a sizable component of the economy in the local community.
- The project prevented over \$11.9 million in flood damages in FY 2019 with an accumulative total of \$600 million in damages prevented since the construction of the project.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 44 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$1,037	\$661	\$1,698	\$1,227	\$791	\$2,018	\$1,165	\$493	\$1,658
Recreation	\$770		\$770	\$674		\$674	\$720		\$720
Environmental Stewardship		\$54	\$54	\$150	\$138	\$288	\$160	\$142	\$302
Total	\$1,807	\$715	\$2,522	\$2,051	\$929	\$2,980	\$2,045	\$635	\$2,680

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$747	\$55	Gage Removal
		\$200	Inspection of Tainter Gate Welds
		\$147	Maintenance for Flood Risk Management
		\$25	Repair Erosion of Downstream Culvert Pipe
		\$25	Replace Boiler Furnace in Dam
		\$20	Replace Damsite Street Lights
		\$145	Replace Project Dozer
		\$20	Replace Ranger Patrol Boat Engine
		\$35	Replace Windows in Dam Tower
		\$75	Verify Soundings of Downstream Tailwater Area to Verify Passive Wedge of the Roller Bucket
Recreation	\$631	\$137	Maintenance of Recreation Features
		\$494	Pave Freeman campground roads

Additional Information

- Fee Lands: 13,154 acres
- Flowage Easement Lands: 208 acres
- Project Boundary Line Marked: 64 miles

Congressional Interests

Senator Joe Manchin III, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman Alex Mooney, R-WV-02



**US Army Corps
of Engineers**

Tom Jenkins Dam

Hocking River, OH



Project Features

- Authorization: Section 10 of Flood Control Act of 1944.
- Primary project purposes are flood damage reduction, water supply and recreation.
- The dam was completed in February 1950 and serves a drainage area of 32.8 square miles.
- The lake is impounded by a rolled earth dam, 84 ft. tall and 560 ft. long, with an uncontrolled saddle spillway near the left abutment of the dam.
- The outlet works include three sluice gates that discharge through a horseshoe tunnel through the left abutment of the dam into a stilling basin.
- There is one Corps managed recreation area.
- OH DNR Burr Oak Lake and State Park exist due to the Tom Jenkins Dam.



Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

Regional Importance

- The project averages 285 thousand visitors annually, contributing \$7.9 million to the local economy, supporting 87 jobs which represents a sizable component of the economy in the local community.
- The project prevented over \$265 thousand in flood damages in FY 2019 with an accumulative total of \$34 million in damages prevented since the construction of the project.
- The project has the ability to supply 8 million gallons of water a day with a National Economic Benefit of \$8.8 million.
- Burr Oak State Park contains a lodge, campground, marina, swim beach, cottages and associated recreation and wilderness resources that would otherwise not exist if not for Tom Jenkins Dam.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$568	\$229	\$797	\$754	\$382	\$1,136	\$515	\$585	\$1,100
Recreation	\$5	\$5	\$10	\$75		\$75	\$40		\$40
Environmental Stewardship		\$5	\$5	\$150	\$74	\$224	\$75	\$80	\$155
Water Supply	\$7	\$6	\$13	\$14	\$6	\$20	\$10	\$11	\$21
Total	\$580	\$245	\$825	\$993	\$462	\$1,455	\$640	\$676	\$1,316

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$1,259	\$330	Clean, Repair, and Paint Sluice Gates
		\$145	Concrete Spalling Repair
		\$50	Install Piezometers and Wells
		\$92	Maintenance for Flood Risk Management
		\$132	Parking lot / building lighting
		\$425	Repairing and repaving the access roads and parking lots
		\$85	Sedimentation survey
Recreation	\$35	\$35	Maintenance of Recreation Features

Additional Information

- Fee Lands: 100 acres
- Flowage Easement Lands: 1,639 acres
- Project Boundary Line Marked: 2 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Steve Stivers, R-OH-15



**US Army Corps
of Engineers**

Yatesville Lake

Big Sandy River, KY



Project Features

- Authorization: section 204 of Flood Control Act of 1965.
- Primary project purposes are flood damage reduction, low flow augmentation, water quality and recreation.
- The dam was completed in 1988 and serves a drainage area of 208 square miles.
- The lake is impounded by a rock-fill dam with a central impervious core, founded on in-situ overburden, 105 ft. tall and 760 ft. long, with an uncontrolled broad-crested spillway.
- The outlet works include an intake structure with gated sluices discharging into a stilling basin. Two selective withdrawal systems have a total of ten intakes. Discharge is controlled by a slide gate and by-pass in each well.
- Proposed hydropower plant which would include 2-3 turbines with a capacity of 12,000 kilowatts.
- There are six recreation areas including two Corps managed day use areas.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 339 thousand visitors annually, contributing \$10.8 million to the local economy, supporting 115 jobs which represents a sizable component of the economy in the local community.
- The project prevented over \$3.3 million in flood damages in FY 2019 with an accumulative total of \$36.2 million in damages prevented since the construction of the project.
- The project hosts a 70 site campground, marina, and swimming area.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 19 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$969	\$608	\$1,577	\$801	\$722	\$1,523	\$882	\$441	\$1,323
Recreation	\$58		\$58	\$115		\$115	\$25		\$25
Environmental Stewardship		\$54	\$54		\$51	\$51	\$10	\$51	\$61
Water Supply	\$200		\$200			\$0			\$0
Total	\$1,227	\$662	\$1,889		\$773	\$1,689	\$917	\$492	\$1,409

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$1,118	\$165	Clean and paint selective withdrawal gates
		\$55	Gage Removal
		\$8	Maintenance for Flood Risk Management
		\$100	Replace toe drain
		\$20	Video Inspect Toe Drain
		\$770	Yatesville Lake - Resurface and restripe roadways in operations area

Additional Information

- Fee Lands: 13,119 acres
- Flowage Easement Lands: 6 acres
- Project Boundary Line Marked: 75 miles

Congressional Interests

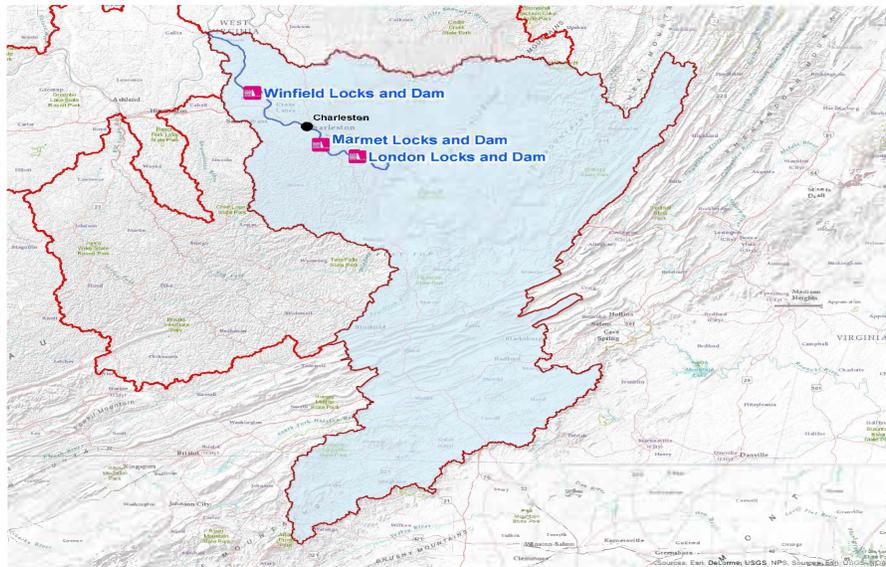
Senator Mitch McConnell, R-KY
 Senator Rand Paul, R-KY
 Congressman Hal Roger, R-KY-05



US Army Corps of Engineers

Kanawha River Locks

Huntington District

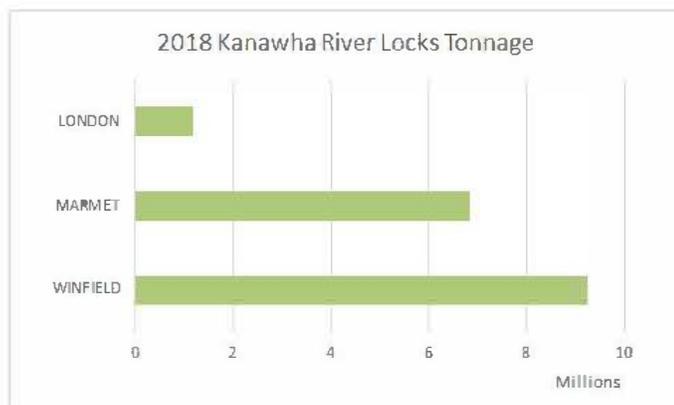


Basin Characteristics

- The Kanawha River, a tributary of the Ohio River, is approximately 97 miles long, making it West Virginia's largest inland waterway.
- The Kanawha River is formed at Gauley Bridge, WV by the confluence of the New River and the Gauley River, joining the Ohio River at Point Pleasant, WV.
- The Kanawha River has three projects with non-navigable dams. Winfield and Marmet L&Ds have a main lock and twin auxiliary chambers, while London L&D has two lock chambers that can be used interchangeably.

Regional Importance

- The Kanawha River is part of the nation's Inland Waterway System. These interconnected river routes cover 11,000 miles and serve to strategically link geographic areas, major markets, suppliers of raw materials, processors and consumers.
- All three Locks and Dams have out-sourced hydropower plants operated by American Electric Power (AEP).
- Because one barge can transport as much cargo as 15 rail cars and 60 tractor-trailers, waterway transportation benefits the environment. It reduces fuel consumption and emissions, and makes roads safer by keeping more trucks off the highway.
- Every year the locks provide passage for approximately 16 million tons of goods. Coal is the dominate commodity being transported with lesser amounts of aggregates, petroleum, steel, and grain.
- The Kanawha River is also a great resource of recreation in the area, averaging 290 thousand visitors annually, contributing \$8.4 million in visitor spending, supporting 88 jobs.



U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Navigation	\$5,764	\$4,156	\$9,920	\$8,497	\$9,600	\$18,097	\$7,061	\$3,831	\$10,892
Recreation	\$29		\$29	\$79		\$79	\$50		\$50
Environmental Stewardship		\$30	\$30		\$30	\$30		\$40	\$40
Total	\$5,793	\$4,186	\$9,979	\$8,576	\$9,630	\$18,206	\$7,111	\$3,871	\$10,982

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$45,805	\$30	Bathymetric Survey - London Locks & Dam
		\$705	Critical Spare Parts - Kanawha River Locks & Dam
		\$132	Develop Plans & Specs to Repair Maintenance Bulkheads - Marmet Locks & Dam
		\$1,600	Dewater and Inspect Auxiliary Chambers - Marmet Locks & Dam
		\$185	Evaluate Facility Security System - Kanawha River Locks & Dam
		\$204	Fabricate Needle Dam Storage Stand - Marmet Locks & Dam
		\$297	Inspect Roller Gate 4 - Winfield Locks & Dam
		\$50	Install Piezometers - Winfield Locks & Dam
		\$50	Install Piezometers at London
		\$142	Machine Spare Hydraulic Cylinder threads - Winfield Locks & Dam
		\$1,444	Maintenance for Navigation
		\$1,049	Marmet L&D Plans & Specs for Service Bridge Replacement
		\$1,310	Modify Auxiliary Lock Wall Ladders - Marmet Locks & Dam
		\$1,310	Modify Auxiliary Lock Wall Ladders - Winfield Locks & Dam
		\$98	Repair End Shield and composite side seals Phase 1 of 2 - Marmet Locks & Dam
		\$738	Repair End Shield and composite side seals Phase 1 of 2 - Marmet Locks & Dam
		\$2,400	Repair Roller Gates 3, 4 and 5 - Winfield Locks & Dam
		\$220	Replace Auxiliary Lock and Dam Power & Control Cabling Phase 1 of 4 - Winfield Locks and Dam
		\$243	Replace Contact Blocks on Downstream Quoin Blocks - Auxiliary Locks - Winfield Locks & Dam
		\$2,377	Replace Guard Rails on Roller Gates 1&2 - Winfield Locks & Dam
		\$900	Replace Main Chamber Miter Gate Anchorage - Marmet Locks & Dam
		\$900	Replace Main Chamber Miter Gate Anchorage - Marmet Locks & Dam
		\$1,013	Replace Operating Programmable Logic Controls (PLC) - Winfield Locks & Dam
		\$1,515	Replace Operation Building & Pierhouse Roofs - Marmet Locks & Dam
		\$1,515	Replace Operations Building and Pierhouse Roofs - London Locks & Dam
		\$314	Replace Roofs at Lock Operations Building and Pierhouse - Winfield Locks & Dam
\$491	Replace Top Anchorage - Marmet Locks & Dam		
\$362	Temporary Repair to Service Bridge - Marmet Locks & Dam		
\$6,901	Winfield L&D- Fabrication of Standard Roller Gate (Gate 1) (1 of 2)		
\$8,765	Winfield L&D - Fabrication of Flap Roller Gate (1 of 2)		
\$6,901	Winfield L&D - Fabrication of Standard Roller Gate 3 (1 of 2)		
\$1,485	Winfield L&D - Major Rehab Report (2 of 2)		
\$159	Test Trunnion Anchor Rod Testing - Winfield Locks & Dam		



**US Army Corps
of Engineers**

London Locks and Dam

Kanawha River, WV



Project Features

- Authorization: River and Harbors Acts of 1930 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in September 1933.
- The project has a non-navigable gated dam, 557 ft. long with five roller gates, spanning 100 ft. between piers, one 56 x 400 ft. lock chamber and a 56 x 360 ft. lock chamber with miter gates.
- American Electric Power (AEP) operates a hydroelectric plant that has two turbines with total capacity of 14,400 kilowatts.
- Lock is staffed 24 hours a day, 7 days a week.
- The project has two recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss would affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 429 visitors annually, contributing \$12 thousand to the local economy.
- In calendar year 2018, the volume of cargo transported exceeded 969 thousand tons of commodities. The most common commodities locking through are coal, petroleum products, gravel, rock, cement scrap metal and chemicals.
- The minimum fill time for each lock is approximately 4 minutes.
- It takes approximately 45 minutes for a commercial tugboat with a 9 barge tow and approximately 30 minutes for a pleasure craft to lock through.

Additional Information

- 2019 tonnage (in thousands) : 9694
- Current Miter Gate In Service Date:
Main: 1994 Auxiliary: 1994
- Projected Year Lock Miter Gates Reach
"F" Condition:
Main: 2072
Auxiliary: 2110
- Projected Miter Gate Replacement:
Main: 2075
Auxiliary: 2110
- Fee Lands: 14 acres
- Flowage Easement Lands: 189 acres
- Project Boundary Line Marked: 1.2 miles

Congressional Interests

Senator Joe Manchin III D-WV
Senator Shelley Moore Capito R-WV
Congressman Alex Mooney R-WV-02



**US Army Corps
of Engineers**

Marmet Locks and Dam

Kanawha River, WV



Project Features

- Authorization: River and Harbors Acts of 1930 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in August 1933 and a new lock became operational in 2008 and completed in 2009.
- The project has a non-navigable gated dam, 557 ft. long with five roller gates, spanning 100 ft. between piers. It has 56 x 360 ft. twin auxiliary locks and a newly constructed main lock that is 110 x 800 ft. with miter gates.
- American Electric Power (AEP) operates a hydroelectric plant that has three turbines with total capacity of 14,400 kilowatts.
- Lock is staffed 24 hours a day, 7 days a week.
- The project has three recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss would affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 62 thousand visitors annually, contributing \$1.7 million to the local economy, supporting 18 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 5.3 million tons, with an estimated value of \$318.1 million in commodities. The most common commodities locking through are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- The minimum fill time for the main lock is 6 minutes and 4 minutes for the auxiliary locks.
- It takes approximately 45 minutes for a commercial tugboat with a 9 barge tow and approximately 30 minutes for a pleasure craft to lock through.

Additional Information

- 2019 tonnage (in thousands): 6267
- Current Miter Gate In Service Date:
Main: 2007 Auxiliary: 1959
- Projected Year Lock Miter Gates Reach "F" Condition:
Main: 2079 Auxiliary: 2105
- Projected Miter Gate Replacement:
Main: 2071 Auxiliary: 2106
- Fee Lands: 21 acres
- Flowage Easement Lands: 388 acres
- Project Boundary Line Marked: 1.7 miles
- Service bridge on the dam is currently rated "F." This has resulted in the project no longer having the ability to set bulkheads on the dam.

Congressional Interests

Senator Joe Manchin III, D-WV
Senator Shelley Moore Capito, R-WV
Congressman Alex Mooney, R-WV-02





**US Army Corps
of Engineers**

Winfield Locks and Dam

Kanawha River, WV



Project Features

- Authorization: River and Harbors Acts of 1930 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in September 1935 and an additional lock was added November 1997.
- The project has a non-navigable gated dam, 676 ft. long with six roller gates, spanning 100 ft. between piers, a 110 ft. tainter gate, 56 x 360 ft. twin auxiliary locks, and a 110 x 800 ft. main lock.
- American Electric Power (AEP) operates a hydroelectric plant that has three turbines with total capacity of 14,760 kilowatts.
- Lock is staffed 24 hours a day, 7 days a week.
- The project has four recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss would jeopardize all municipal water supply intakes and all water intakes for industrial users, loss of electrical energy produced by hydropower plants at the dam, and loss of habitat for aquatic species. Such a pool loss would affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 227 thousand visitors annually, contributing \$6.7 million to the local economy, supporting 70 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 7.7 million tons, with an estimated value of \$848 million in commodities. The most common commodities to lock through are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 1 recreational program in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.
- The minimum fill time for the main lock is 6 minutes and 4 minutes for the auxiliary locks.
- It takes approximately 45 minutes for a commercial tugboat with a 9 barge tow and approximately 30 minutes for a pleasure craft to lock through.

Additional Information

- 2019 tonnage (in thousands) : 9309
- Current Miter Gate In Service Date:
Main: 2000 Auxiliary: 2000
- Projected Year Lock Miter Gates Reach
"F" Condition: Main: 2093 Auxiliary: 2116
- Projected Miter Gate Replacement:
Main: 2100 Auxiliary: 2117
- Fee Lands: 21 acres
- Flowage Easement Lands: 388 acres
- Project Boundary Line Marked: 2.3 miles
- All roller gates are currently rated in an "F"
condition.



Congressional Interests

Senator Joe Manchin III D-WV
Senator Shelley Moore Capito R-WV
Congressman Alex Mooney R-WV-02



**US Army Corps
of Engineers**

Muskingum River Lakes, OH



Huntington District



Basin Characteristics

- The original system of 14 reservoir projects was constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District (MWCD).
- The MWCD partners with the Corps of Engineers in the operation of the system of dams and reservoirs in the watershed that covers approximately 20% of the State of Ohio.
- Operation and maintenance of the dam structures is the responsibility of the Corps of Engineers, while the MWCD manages most of the reservoir areas behind the dams which include 16,000 acres of water surface and 38,000 acres of land for public use.
- The system is divided into three sub watershed regions: The Walhonding River Watershed in the northwest area, the Tuscarawas River Watershed in the northeast area, and the Lower Muskingum River region in the southern area.

Regional Importance

- Collectively, the Muskingum Area projects average 7.6 million visitors annually, contributing \$223 million to the local economy, supporting 2,553 jobs which represents a sizable component of the economy in the local communities.
- The projects prevented over \$305 million in flood damages in FY 2019 with a cumulative total of \$6.1 billion in flood damages prevented since the construction of the projects.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 43 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.



U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Flood Risk Management	\$6,990	\$9,695	\$16,685	\$6,551	\$5,283	\$11,834	\$6,944	\$5,235	\$12,179
Recreation	\$273	\$61	\$334	\$313	\$35	\$348	\$218		\$218
Environmental Stewardship		\$108	\$108	\$150	\$127	\$277	\$267	\$127	\$394
Total	\$7,263	\$9,864	\$17,127	\$7,014	\$5,445	\$12,459	\$7,429	\$5,362	\$12,791

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
	Flood Risk Management	\$50	



**US Army Corps
of Engineers**

Atwood Lake

Muskingum River Lakes, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in September 1936 and serves a drainage area of 70 square miles.
- The dam is a rolled earth-fill with an impervious core, 65 ft. tall, 3,700 ft. long and 30 ft. wide at the base.
- The intake structure contains three gated conduits through the south abutment of the dam and a stilling basin.
- To maintain a minimum pool, a 1.5 ft. diameter siphon is located in each of the two outer conduits, in front of the floodgates, and discharges into the middle conduit below the gate.
- Recreational facilities include a day use area.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 949 thousand visitors annually, contributing \$28 million to the local economy, supporting 320 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 25 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$493	\$143	Atwood Replace Control Tower Roof
		\$250	Replace Left Abutment Seepage Drain and Weir - Atwood
		\$50	Spillway Concrete Slab Joint Repair - Atwood
		\$50	Spillway Stone Slope Protection - Atwood

Additional Information

- Fee Lands: 109 acres
- Flowage Easement Lands: 5,148 acres
- Project Boundary Line Marked: 3 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bill Johnson, R-OH-06
 Congressman Bob Gibbs, R-OH-07



**US Army Corps
of Engineers**

Beach City Lake

Sugar Creek of Tuscarawas River, OH



Project Features

- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in 1936 and serves a drainage area of 300 square miles.
- The dam is rolled earth-fill with an impervious core, 64 ft. tall, 5,600 ft. long and 35 ft. wide at the top and 370 ft. wide at the base.
- The spillway is an uncontrolled saddle at the right abutment of the dam. The intake structure contains six gated sluices discharging through twin semi-circular concrete conduits through the right abutment into a stilling basin.
- Minimum pool is maintained with a control weir with two stop log gates.
- Project includes three rolled earth-fill levees and a pump station to protect Brewster, OH, as well as a small industrial levee to protect Industrial Silica Co. at Dundee, OH.



Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

Regional Importance

- The project averages 144 thousand visitors annually, contributing \$4 million to the local economy, supporting 45 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 2 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$2,974	\$2,974	Beach City Bulkhead Slots

Additional Information

- Fee Lands: 299 acres
- Flowage Easement Lands: 7,818 acres
- Project Boundary Line Marked: 4 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bob Gibbs, R-OH-07



**US Army Corps
of Engineers®**

Bolivar Dam

Tuscarawas River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in September 1938 and serves a drainage area of 504 square miles.
- The dam is rolled earth-fill with an impervious core, 87 ft. tall, 6,300 ft. long. The spillway is an uncontrolled saddle at the south abutment of the dam.
- The intake structure contains six 7 x 15 ft. gated sluices discharging through two 16 x 16 ft. horseshoe tunnels into a stilling basin.
- Other structures include Magnolia Levee which protects the town of Magnolia, and two small industrial levees protecting Sparta Ceramic Co and U.S. Quarry Tile Co.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 179 thousand visitors annually, contributing \$5 million to the local economy, supporting 56 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 10 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$30	\$30	Relief Well Maintenance - Bolivar Dam

Additional Information

- Fee Lands: 713 acres
- Flowage Easement Lands: 8,282 acres
- Project Boundary Line Marked: 4 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bob Gibbs, R-OH-07



**US Army Corps
of Engineers**

Charles Mill Lake

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in August 1936 and serves a drainage area of 215 square miles.
- The dam is a rolled earth-fill with an impervious core, 48 ft. tall and 1,390 ft. long.
- The spillway consists of two uncontrolled concrete overflow sections at the right abutment. The primary spillway has five gated sluices that discharge into a stilling basin. The secondary spillway discharges between the primary spillway and right abutment of the dam.
- Minimum pool is maintained by a control weir with stop gates in front of the sluices and one gated bypass conduit around the control weir.
- Corps of Engineers facilities include a day use area.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 1.1 million visitors annually, contributing \$333 million to the local economy, supporting 371 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$105	\$105	Plans and Specifications for Concrete Repairs at Charles Mill Lake.

Additional Information

- Fee Lands: 111 acres
- Flowage Easement Lands: 8,320 acres
- Project Boundary Line Marked: 4 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bob Gibbs, R-OH-07



**US Army Corps
of Engineers®**

Clendening Lake

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in June 1936 and serves a drainage area of 69 square miles.
- The dam is a rolled earth-fill with an impervious core, 64 ft. tall and 950 ft. long.
- The spillway is an uncontrolled saddle at the west abutment of the dam. The intake structure contains three gated sluices discharging through a horseshoe tunnel near the west abutment into a stilling basin.
- To maintain a minimum pool, a 1.5 diameter siphon is located in each of the outer conduits, in front of the gates, and discharges into the middle sluice below the gate.
- Corps of Engineers facilities include a day use area.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 47 thousand visitors annually, contributing \$1.4 million to the local economy, supporting 17 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$902	\$902	Cleaning and painting of Sluice gates at Clendening and regROUT sluice gate frames
		\$404	Cleaning and painting of Sluice gates at Piedmont
		\$529	Cleaning and painting of Sluice gates at Senecaville
		\$1,060	Clendening repair conduit tunnel outlet and transition area at Clendening.
		\$1,905	Clendening Replace Service Bridge.
		\$1,905	Clendening Replace Spillway Bridge.

Additional Information

- Fee Lands: 87 acres
- Flowage Easement Lands: 7,214 acres
- Project Boundary Line Marked: 10 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bill Johnson, R-OH-06



**US Army Corps
of Engineers**

Dover Dam

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in November 1938 and serves a drainage area of 1.405 square miles.
- The dam is concrete gravity, 83 ft. tall and 824 ft. long.
- Other structures include levees at Zoar and Somerdale and three industrial levees protecting Corundite Refractories, Inc. at Zoar, Fairfield Brick Co. at Zoarville, and Norton Chemical Corp at Mineral City.
- Corps recreational facilities include a day use area.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 48 thousand visitors annually, contributing \$1.3 million to the local economy, supporting 12 jobs.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.
- The dam was classified as a Dam Safety Action Class 2, which means that "failure could begin during normal operations or be initiated as the consequence of an event. The likelihood of failure from one of these occurrences, prior to remediation, is too high to assure public safety, or, the combination of life or economic consequences with probability of failure is very high." Construction to rehabilitate the dam was completed in FY 2015.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$2,770	\$298	2nd Street Culvert Construction - Zoar Levee. Package 2 of 2.
		\$131	2nd Street Culvert Design - Zoar Levee. Package 1 of 2
		\$336	Pump Rehabilitation Const. - Zoar Levee
		\$30	Replace Crest Elevation to Design Level - Magnolia Levee
		\$25	Video Inspect Conduit-CMB-Pavonia Levee
		\$350	Zoar Levee - Relief Well Replacement - Package 2 of 3
		\$1,600	Zoar Levee - Relief Well Replacement - Package 3 of 3

Additional Information

- Fee Lands: 231 acres
- Flowage Easement Lands: 14,340 acres
- Project Boundary Line Marked: 7 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bob Gibbs, R-OH-07



**US Army Corps
of Engineers**

Leesville Lake

Tuscarawas River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in October 1936 and serves a drainage area of 48 square miles.
- The dam is rolled earth-fill with an impervious core, 74 ft. tall, 1,695 ft. long with an uncontrolled concrete-lined saddle spillway.
- The intake structure contains three gated sluices discharging through a horseshoe tunnel through the right abutment into a stilling basin.
- To maintain minimum pool, 1.5 ft. diameter siphons are located in front of the gates of the two outer sluices and discharge into the center sluice.
- There are no Corps operated recreation areas at this project.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.



Regional Importance

- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.
- The Muskingum Watershed Conservancy District lakes and facilities are estimated to attract approximately 5.5 million visitors to the area each year.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$315	\$315	Rehab Relief Wells - Leesville

Additional Information

- Fee Lands: 161 acres
- Flowage Easement Lands: 4,001 acres
- Project Boundary Line Marked: 0 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bill Johnson, R-OH-6



**US Army Corps
of Engineers®**

Mohawk Dam

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in September 1936 and serves a drainage area of 821 square miles.
- The dam is a gravel and rock-fill with an impervious core, 111 ft. tall, 2,330 ft. long with an uncontrolled saddle spillway at the left abutment of the dam.
- The intake structure contains six caterpillar type gates discharging through two horseshoe tunnels through the left abutment of the dam into a stilling basin.
- Corps of Engineers facilities include a day use area and a camping area, both of which are out-granted.



Regional Importance

- The project averages 8 thousand visitors contributing \$244 thousand to the local economy, supporting 3 jobs.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$1,001	\$484	Mohawk Gates and guides rehab.
		\$412	Mohawk Service Bridge Repair -Abutments
		\$105	Plans and Specifications for Concrete Repairs on the stilling basin and wall center pier, Mohawk Dam

Additional Information

- Fee Lands: 251 acres
- Flowage Easement Lands: 13,773 acres
- Project Boundary Line Marked: 4 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bob Gibbs, R-OH-07



**US Army Corps
of Engineers®**

Mohicanville Dam

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in 1936 and serves a drainage area of 271 square miles.
- The dam is rolled earth-fill with an impervious core, 46 ft. tall, 1,220 ft. long.
- Mohicanville is a dry dam.
- The spillway is an uncontrolled concrete overflow section at the left abutment of the dam. The intake structure contains three gated sluices, with broome-type gates discharging into a stilling basin.
- Other structures include two rolled earth-fill dikes with impervious cores, both located southeast of the dam.
- Corps of Engineers facilities include a day use area.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 25 thousand visitors contributing \$694 thousand to the local economy, supporting 8 jobs.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.

Additional Information

- Fee Lands: 95 acres
- Flowage Easement Lands: 13,678 acres
- Project Boundary Line Marked: 3 miles

Congressional Interests

Senator Sherrod Brown D-OH
Senator Robert Portman R-OH
Congressman Bob Gibbs R-OH-07



**US Army Corps
of Engineers**

Piedmont Lake

Tuscarawas River, OH



Project Features

- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in May 1937 and serves a drainage area of 86 square miles.
- The dam is rolled earth-fill, 56 ft. tall. 1,750 ft. long.
- The spillway is an uncontrolled saddle beyond the left abutment. The intake structure contains four gated sluices discharging through a horseshoe tunnel near the left abutment of the stilling basin.
- To maintain minimum pool, siphons are located in front of gates 3 and 4 and discharge below gate 4.
- There are no Corps operated recreational facilities at this project.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.



Regional Importance

- The project averages 144 thousand visitors contributing \$4 million to the local economy, supporting 45 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.

Additional Information

- Fee Lands: 111 acres
- Flowage Easement Lands: 6,615 acres
- Project Boundary Line Marked: 0 miles

Congressional Interests

Senator Sherrod Brown, D-OH

Senator Robert Portman, R-OH

Congressman - Bill Johnson, R-OH-6



**US Army Corps
of Engineers®**

Pleasant Hill Lake

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in May 1937 and serves a drainage area of 197 square miles.
- The dam is a rolled earth-fill with an impervious core, 113 ft. tall and 775 ft. long.
- The spillway is a morning glory type shaft that discharges into a tunnel through the right abutment of the dam. A second uncontrolled saddle spillway is 1.5 miles north of the dam. The intake structure contains two gated sluices discharging into the tunnel from the morning glory spillway into a stilling basin.
- To maintain minimum pool and to provide automatic discharge, 3 sets of orifices are provided at minimum pool elevation.
- Corps of Engineers facilities include a day use area.



Regional Importance

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.

- The project averages 652 thousand visitors annually, contributing \$18 million to the local economy, supporting 210 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$1,865	\$20	Automate Piezometers - Pleasant Hill
		\$155	Plans and Specifications for Concrete Repairs at Pleasant Hill Lake.
		\$105	Plans and Specifications for Morning Glory Spillway Bank Stabilization at Pleasant Hill Lake.
		\$105	Plans and Specifications to Repair the conduit tunnel outlet and transition area at Piedmont Lake.
		\$412	Pleasant Hill Lake Bridge Pier Replacement
		\$192	Pleasant Hill Lake Bulkhead Rehabilitation.
		\$876	Pleasant Hill Lake Service Bridge Clean and Paint structure

Additional Information

- Fee Lands: 64 acres
- Flowage Easement Lands: 4,236 acres
- Project Boundary Line Marked: 5 miles

Congressional Interests

Senator Sherrod Brown D-OH
 Senator Robert Portman R-OH
 Congressman Bob Gibbs R-OH-7



**US Army Corps
of Engineers**

Senecaville Lake

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in September 1936 and serves a drainage area of 118 square miles.
- The dam is a rolled earth-fill with an impervious core, 45 ft. tall and 2,350 ft. long.
- The spillway is an uncontrolled concrete overflow in the center portion of the dam. The intake structure is located in the center of the spillway section and contains two gated sluices. The intake structure is flanked by two overflow sections, each controlled by a tainter gate. The closed tainter gates form a portion of the spillway crest length.
- Recreational facilities include two out-granted day use areas.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 1.7 million visitors annually, contributing \$50 million to the local economy, supporting 608 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.

Additional Information

- Fee Lands: 138 acres
- Flowage Easement Lands: 11,554 acres
- Project Boundary Line Marked: 10 miles

Congressional Interests

Senator Sherrod Brown D-OH

Senator Robert Portman R-OH

Congressman Bill Johnson R-OH-06



**US Army Corps
of Engineers**

Tappan Lake

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in October 1936 and serves a drainage area of 71 square miles.
- The dam is a rolled earth-fill with an impervious core, 52 ft. tall and 1,550 ft. long.
- The spillway is an uncontrolled saddle near the left abutment. The intake structure has three gated sluices discharging into a concrete horseshoe tunnel and stilling basin.
- To maintain pool, 1.5 ft. diameter siphons are located in front of gates 1 and 3 and discharge below gate 2.
- Recreational facilities include a day use area.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 1.2 million visitors annually, contributing \$37 million to the local economy, supporting 422 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.
- Natural and recreational resources at this project provide social, economic and environmental benefits.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Flood Risk Management	\$497	\$497	Sandblast and panting of the discharge gates at Tappan

Additional Information

- Fee Lands: 91 acres
- Flowage Easement Lands: 7,983 acres
- Project Boundary Line Marked: 5 miles

Congressional Interests

Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman - Bill Johnson, R-OH-6



**US Army Corps
of Engineers**

Wills Creek Lake

Muskingum River, OH



Project Features

- Authorization: Section 4 of the Flood Control Act of 1938, as amended by Section 4 of the Flood Control Act of 1939.
- One of the original system of 14 reservoir projects constructed in 1938 in cooperation with the Muskingum Watershed Conservancy District.
- Project purposes served are flood damage reduction, recreation and fish and wildlife.
- The dam was completed in June 1936 and serves a drainage area of 724 square miles.
- The dam is a rolled earth-fill with an impervious core, 87 ft. tall and 1,950 ft. long.
- The spillway is an uncontrolled saddle at the right abutment of the dam. The intake structure has two semi-circular arch conduits controlled by six caterpillar gates and a control weir with two stop log gates for maintaining minimum pool and a stilling basin.
- Recreational facilities include a day use area.

Consequences of Not Maintaining the Project

- Failure to adequately fund the flood damage reduction mission at this facility would result in the project's inability to adequately execute the flood damage reduction mission as authorized by congress. The consequences could range in severity depending upon the condition of the project, but would ultimately lead to a failure of the structure and a subsequent life safety concern for those in the affected downstream areas.
- Closure of recreational facilities will result in degradation of facilities, negative public reaction and potential Congressional inquiries.



Regional Importance

- The project averages 58 thousand visitors annually, contributing \$1.6 million to the local economy, supporting 19 jobs. This represents a sizable component of the economy in the local community.
- The Muskingum Watershed Conservancy District makes a direct contribution to the region's economy by employing 85 people year round, and typically more than 300 people to meet summer season needs.
- As a system, the Corps dams in the Muskingum area prevented over \$305 million in flood damages in FY 2019 with an accumulative total of \$6.1 billion damages prevented since the construction of each project in the system.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 6 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Package \$	
Flood Risk Management	\$500	\$500	WCL Sandblast and painting of the Sluice gates at Wills Creek Lake.

Additional Information

- Fee Lands: 131 acres
- Flowage Easement Lands: 20,252 acres
- Project Boundary Line Marked: 3 miles

Congressional Interests

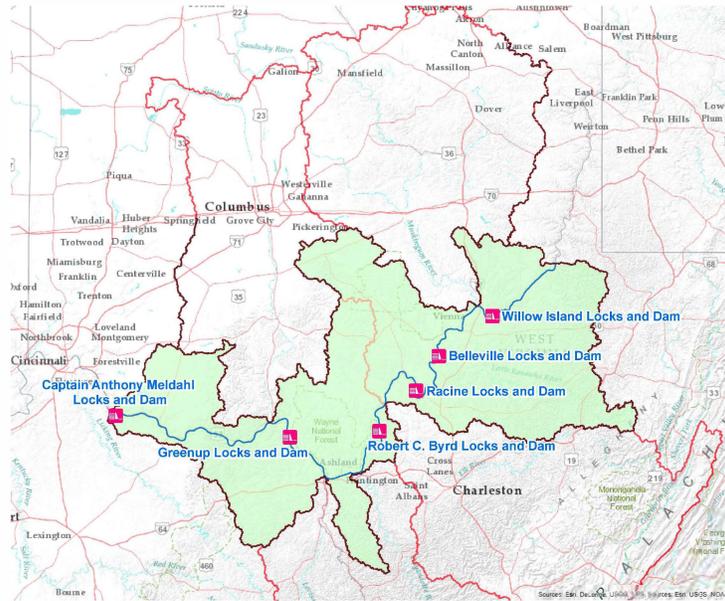
Senator Sherrod Brown, D-OH
 Senator Robert Portman, R-OH
 Congressman Bill Johnson, R-OH-06
 Congressman Bob Gibbs, R-OH-07



US Army Corps of Engineers

Ohio River Locks

Huntington District



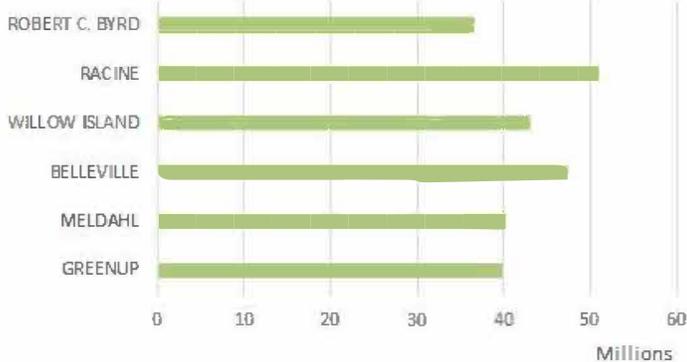
Basin Characteristics

- The Ohio River Basin consists of 204,430 square miles covering parts of 15 states.
- Of the 21 locks and dams on the Ohio River, the Huntington District manages 6 Locks and Dams which form a "staircase" along the Ohio River allowing barge traffic to move commodities throughout the Ohio River Basin and on into the Mississippi River system.
- The Huntington District portion of the Ohio River encompasses 311 of the 981 miles of river, beginning downstream of Pittsburgh, PA and ending at Meldahl Lock and Dam, located 45 miles upstream of Cincinnati, OH.

Regional Importance

- The Ohio River is part of the nation's Inland Waterway System. These interconnected river routes cover 11,000 miles and serve to strategically link geographic areas, major markets, suppliers of raw materials, processors and consumers.
- All 6 Locks and Dams have out-sourced hydropower plants in operation except the RC Byrd facility which is currently permitted and being studied for a hydropower plant.
- Because one barge can transport as much cargo as 15 rail cars and 60 tractor-trailers, waterway transportation benefits the environment. It reduces fuel consumption and emissions, and makes roads safer by keeping more trucks off the highway.
- Every year the locks provide passage for over 70 million tons of goods. Coal is the dominate commodity being transported with lesser amounts of aggregates, petroleum, steel, and grain.
- The Ohio River is also a great resource of recreation in the area, averaging 846 thousand visitors annually, contributing \$28.2 million in visitor spending, supporting 296 jobs.

2018 LRH Ohio River Locks Tonnage



U.S. Army Corps of Engineers Fiscal Year (FY) Project Appropriations and President's Budget (\$1,000)

Business Line	FY19 O&M Appropriation			FY20 O&M Appropriation			FY21 O&M President's Budget		
	Operation	Maintenance	Total	Operation	Maintenance	Total	Operation	Maintenance	Total
Navigation	\$14,749	\$11,651	\$26,400	\$12,542	\$16,940	\$29,482	\$14,418	\$9,695	\$24,113
Recreation	\$320		\$320	\$317	\$5	\$322	\$48		\$48
Environmental Stewardship	\$20	\$95	\$115		\$30	\$30	\$150	\$50	\$200
Total	\$15,089	\$11,746	\$26,835	\$12,859	\$16,975	\$29,834	\$14,616	\$9,745	\$24,361

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$5,824	\$1,180	Maintenance for Navigation - Locks (1 of 3)
		\$3,161	Maintenance for Navigation - Locks (2 of 3)
		\$1,483	Maintenance for Navigation - Locks (3 of 3)

Locks and Dams No.	Miles Below Pitts.					
Willow Island	161.7	Main	110 x1,200	1,017	602.0	1972
		Auxiliary	110 x 600			
Belleville	203.9	Main	110 x1,200	1,017	582.0	1965
		Auxiliary	110 x 600			
Racine	237.5	Main	110 x1,200	1,017	560.0	1967
		Auxiliary	110 x 600			
R.C. Byrd	279.2	Main	110 x1,200	1,116	538.0	1991
		Auxiliary	110 x 600			
Greenup	341	Main	110 x 1,200	1,042	515.0	1962
		Auxiliary	110 x 600			
Meldahl	436.2	Main	110 x 1,200	1,384	485.0	1964
		Auxiliary	10 x 600			



**US Army Corps
of Engineers**

Belleville Locks and Dam

Ohio River, OH

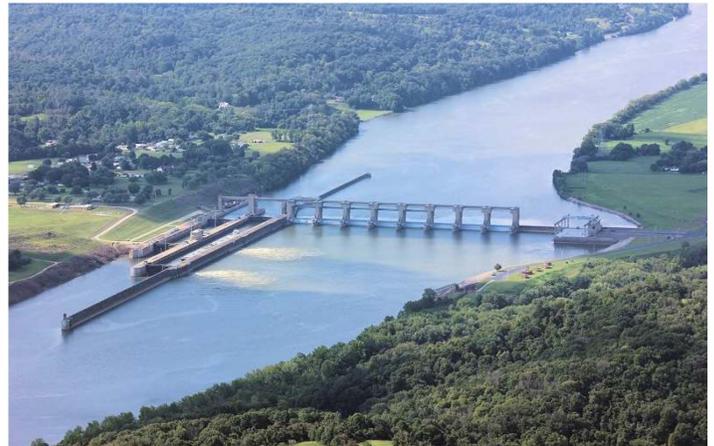


Project Features

- Authorization: River and Harbors Acts of 1909 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in October 1965.
- The project has a non-navigable, high-lift, gated dam, 1,206 ft. long with a 189 ft. fixed weir with 130 ft. open crest. Eight tainter gates with a clear span of 110 ft. between 15 ft. intermediate piers and 16 ft. end piers and a 1,899 ft. fixed pier. There are two parallel locks measuring 110 x 1,200 ft, and an auxiliary lock measuring 110 x 600 ft, with miter service gates and bulkhead emergency closure.
- American Electric Power (AEP) operates a hydroelectric plant on the West Virginia abutment that has two turbines with total capacity of 42,000 kilowatts.
- Lock is staffed 24 hours a day, 7 days a week.
- The project has seven recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss could affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 178 thousand visitors annually, contributing \$5.6 million to the local economy, supporting 58 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 41.6 million tons, with an estimated value of \$5.8 billion in commodities. The most common commodities locking through are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- Natural and recreational resources at this project provide social, economic and environmental benefits.
- There are 6 major industries that withdraw water from this pool.
- The minimum fill time for the main lock is 9 minutes and 4.5 minutes for the auxiliary lock.
- It takes approximately 45 minutes for a commercial tugboat with a 15 barge tow and approximately 30 minutes for a pleasure craft to lock through.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$19,915	\$506	480V Feeder Replacement for Lock and Dam - Belleville Locks & Dam
		\$150	Belleville Lock And Dam- Bulkhead Crane Rail Rehab
		\$2,010	Belleville Lock And Dam- Install Culvert Valve Intake Screens
		\$75	Belleville Lock And Dam- Rehab Dam Machinery Buildings
		\$244	Belleville Lock And Dam- Locating and removing underground storage tanks
		\$725	Belleville Lock And Dam- Replace Handrailing & Safety Rail on Lockwalls
		\$115	Belleville Lock And Dam- Upgrade the Upstream Harbor Area
		\$1,954	Implementation of Dam Gate Trunnion Rod Testing - Belleville Locks & Dam
		\$2,500	Main Chamber Dewater Upstream Miter Gates - Belleville Locks & Dam
		\$270	Rehab Lock Chamber Culvert Valve Bulkheads - Belleville Locks & Dam
		\$1,700	Repair Bulkhead Crane and Replacement of the intake screens - Belleville Locks & Dam
		\$1,800	Repair Filling and Emptying System - Belleville Locks & Dam
		\$243	Upgrade Dam Gate Controller - Belleville Locks & Dam
		\$7,270	Belleville Lock And Dam- Rehab Hydraulic System and Install Individual HPU on Main Chamber
\$353	Belleville Lock And Dam- Rehab trash guards on 24 Floating Mooring Bits in Auxiliary & Main Chambers		

Additional Information

- 2019 tonnage (in thousands) : 49,185
- Current Miter Gate In Service Date:
Main: 1965 Auxiliary: 1965
- Projected Year Lock Miter Gates Reach "F" Condition:
Main: 2020 Auxiliary: 2025
- Projected Miter Gate Replacement:
Main: 2025 Auxiliary: 2035
- Fee Lands: 321 acres
- Flowage Easement Lands: 3,569 acres
- Project Boundary Line Marked: 9 miles

Congressional Interests

Senator Sherrod Brown D-OH
 Senator Robert Portman R-OH
 Congressman Bill Johnson R-OH-06
 Senator Joe Manchin, D-WV
 Senator Shelley Moore Capito, R-WV
 Congressman David McKinley, R-WV-1



**US Army Corps
of Engineers**

Captain Anthony Meldahl Locks and Dam

Ohio River, OH



Project Features

- Authorization: River and Harbors Acts of 1909 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in November 1962.
- The project includes a non-navigable, high-lift, 1,756 ft. long gated dam including a 372 ft. fixed weir with a 310 ft. open crest. Twelve tainter gates span 100 ft. between 14 ft. intermediate piers and 15 ft. end piers. The dam has two types of gates, submergible and non-submergible ogee sill units. There are two parallel locks. The main lock is 110 x 1,200 ft. and the auxiliary lock is 110 x 600 ft., both with miter service gates and vertical-lift emergency gates.
- American Municipal Power (AMP) operates a hydropower electric plant on the Kentucky abutment of the dam. The plant includes three turbines with a total capacity of 105,000 kilowatts. Commercial operation of the hydropower plant began in April 2016.
- The project has 9 day recreation areas including day use and camping.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss could affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 129 thousand visitors annually, contributing \$4.5 million to the local economy, supporting 49 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 37 million tons for an estimated value of \$7.9 billion in commodities. The most common cargo locking through are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 2 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.
- There are 5 major industries withdrawing water from this pool.
- The minimum fill time for the main lock is 9 minutes and 4.5 minutes for the auxiliary lock.
- It takes approximately 45 minutes for a commercial tugboat with a 15 barge tow and approximately 30 minutes for a pleasure craft to lock through.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$22,364	\$240	Complete Miter Gate Screening Assessment - Meldahl Locks & Dam (2 of 3)
		\$500	Complete Miter Gate Standard Design - Meldahl Locks & Dam (3 of 3)
		\$3,003	Implementation of Dam Gate Trunnion Rod Testing - Meldahl Locks & Dam
		\$104	Meldahl Lock And Dam- Critical Waterway Signage
		\$200	Meldahl Lock And Dam- Friction Analysis of Dam Tainter Gates
		\$705	Meldahl Lock And Dam- Install Culvert Valve Intake Screens
		\$428	Meldahl Lock And Dam- Locating and removing underground storage tanks
		\$75	Meldahl Lock And Dam- Plans & Specs Repairs to Conduits, Cable Trays, & Cable Supports
		\$354	Meldahl Lock And Dam- Rehab Emergency Bulkhead Crane Machinery and Conductor Rail System
		\$494	Meldahl Lock And Dam- Repair Primary Chamber Wall Armor
		\$373	Meldahl Lock And Dam- Replace Dam Piers Panelboards
		\$10,720	Meldahl Lock And Dam- Replace Downstream Main Chamber Miter Gate
		\$428	Meldahl Lock And Dam- Replace Emergency Gate Wire Rope, Controls and Load Cells
		\$725	Meldahl Lock And Dam- Replace Handrailing & Safety Rail on Lockwalls
		\$75	Upgrade Motor Control Center - Meldahl Locks & Dam
		\$3,500	Repair Main Chamber Filling and Emptying System - Meldahl Locks & Dam
\$275	Rehab Lock Chamber Culvert Valve Bulkheads - Meldahl Locks & Dam		
\$165	Rehab Dam Tainter Gate - Meldahl Locks & Dam		
Recreation	\$228	\$228	Meldahl L&D - Replace Restroom in Day Use Area

Additional Information

- 2019 tonnage (in thousands) : 39,232
- Current Miter Gate In Service Date:
Main: Downstream: 1962 Upstream: 2017
Auxiliary: Downstream:1962 Upstream: 2012
- Projected Year Lock Miter Gates Reach
"F" Condition:
Main: Downstream: 2017 Upstream: 2060
Auxiliary Downstream: 2020 Upstream: 2070
- Projected Miter Gate Replacement:
Main: Downstream: 2020 Upstream: 2087
Auxiliary: Downstream: 2032 Upstream: 2082
- Fee Lands: 510 acres
- Flowage Easement Lands: 6,056 acres

Congressional Interests

Senator Sherrod Brown D-OH
 Senator Robert Portman R-OH
 Senator Mitch McConnell R-KY
 Senator Rand Paul R-KY
 Congressman Thomas Massie R-KY-04
 Congressman Brad Wenstrup R-OH-02



**US Army Corps
of Engineers**

Greenup Locks and Dam

Ohio River, KY and OH



Project Features

- Authorization: River and Harbors Acts of 1909 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in November 1959.
- The project has a non-navigable, high lift, 1,287 ft. long gated dam, including a 245 ft. fixed weir with a 223 ft. open crest. Nine tainter gates with a clear span of 100 ft. between 14 ft. intermediate piers and 15 ft. end piers. There are two types of gates, submergible and non-submergible ogee sill units. There are two parallel locks, the main lock is 110 x 1,200 ft. and the auxiliary lock is 110 x 600 ft. with miter gates and vertical-lift emergency gates.
- The City of Hamilton, OH operates a hydroelectric plant on the Ohio abutment that has three turbines with total capacity of 70,000 kilowatts.
- Lock is staffed 24 hours a day, 7 days a week.
- The project has 11 day use recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss could affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 460 thousand visitors annually, contributing \$15.5 million to the local economy, supporting 162 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 38.5 million tons, with an estimated value of \$8.1 billion. The most common cargo locking though are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 3 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.
- There are 14 major industries withdrawing water from this pool.
- The minimum fill time for the main lock is 9 minutes and 4.5 minutes for the auxiliary lock.
- It takes approximately 45 minutes for a commercial tugboat with a 15 barge tow and approximately 30 minutes for a pleasure craft to lock through.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$23,287	\$8,500	Dewater and Repair Auxiliary Chamber - Greenup Locks & Dam
		\$2,300	Dewater Main Chamber Upper Miter Gates - Greenup Locks & Dam
		\$75	Greenup Lock And Dam- Infiltration Repairs in Crossovers
		\$104	Greenup Lock And Dam- Critical Waterway Signage
		\$200	Greenup Lock And Dam- Friction Analysis of Dam Tainter Gates
		\$336	Greenup Lock And Dam- Locating and removing underground storage tanks
		\$528	Greenup Lock And Dam- Middle Wall Upstream Bullnose Armor Damage
		\$150	Greenup Lock And Dam- New 20 Ton Project Crane Barge
		\$100	Greenup Lock And Dam- Repairs to Conduits, Cable Trays & Cable Supports
		\$716	Greenup Lock And Dam- Repairs to Upstream Guard Wall Bullnose Monolith
		\$348	Greenup Lock And Dam- Replace Dam Gates Cathodic Protection
		\$2,590	Greenup Lock And Dam- Replace Dam Lineshafts and Gearboxes
		\$725	Greenup Lock And Dam- Replace Handrailing & Safety Rail on Lockwalls
		\$75	Greenup Lock And Dam- Shoreline Erosion Protection
		\$440	Implementation of Dam Gate Trunnion Rod Testing - Greenup Locks & Dam
		\$270	Rehab Lock Chamber Culvert Valve Bulkheads - Greenup Locks & Dam
		\$4,600	Repairs to Miter Gate Machinery Filling and Emptying System - Greenup Locks & Dam
		\$1,000	Replace Dam Bulkhead Crane Wire Rope - Greenup Locks & Dam
		\$55	Replace Air Compressors for Main and Auxiliary Chambers - Greenup Locks & Dam
		\$75	Rehab Floating Mooring Facility - Project Harbor Area - Greenup Locks & Dam
	\$100	Greenup Lock And Dam- Replace Motor Control Center	

Additional Information

- 2019 tonnage (in thousands) : 40,150
- Current Miter Gate In Service Date:
Main: 2016 Auxiliary: 1959
- Projected Year Lock Miter Gates Reach
"F" Condition:
Main: Upstream: 2067 Downstream: 2060
Auxiliary Upstream: 2019 Downstream: 2020
- Projected Miter Gate Replacement:
Main: 2071
Auxiliary: Downstream: 2029 Upstream: 2028
- Fee Lands: 318 acres
- Flowage Easement Lands: 2,942 acres
- Project Boundary Line Marked: 14 miles

Congressional Interests

Senator Sherrod Brown D-OH
 Senator Robert Portman R-OH
 Senator Mitch McConnell R-KY
 Senator Rand Paul R-KY
 Congressman Thomas Massie R-KY-04
 Congressman Bill Johnson R-OH-06



**US Army Corps
of Engineers**

Racine Locks and Dam

Ohio River, OH and WV



Project Features

- Authorization: River and Harbors Acts of 1909 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in December 1967.
- The project has a non-navigable, high lift, 1,173 ft. long gated dam with eight tainter gates with a clear span of 110 ft. between 15 ft. intermediate piers and 16 ft. end piers. There are two parallel locks. The main lock is 110 x 1,200 ft. and the auxiliary lock is 110 x 600 ft with miter service gates and vertical-lift emergency gates.
- American Electric Power Company (AEP) owns and operates a hydroelectric plant on the Ohio abutment of the dam that has two 24,000 KW bulb-type Kaplan turbines operating 24 hours a day as run of river conditions permit.
- Lock is staffed 24 hours a day, 7 days a week.
- The project has 2 day use recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss could affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 20 thousand visitors annually, contributing \$714 thousand to the local economy, supporting 4 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 42 million tons for an estimated value of \$5.9 billion in commodities. The most common cargo locking though are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.
- There are 2 major industries withdrawing water from this pool.
- The minimum fill time for the main lock is 9 minutes and 4.5 minutes for the auxiliary lock.
- It takes approximately 45 minutes for a commercial tugboat with a 15 barge tow and approximately 30 minutes for a pleasure craft to lock through.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$26,766	\$7,700	Dewater Auxiliary Chamber Miter Gates - Racine Locks & Dam
		\$1,156	Implementation of Dam Gate Trunnion Rod Testing - Racine Locks & Dam
		\$75	Racine Lock And Dam- Infiltration Repairs in Crossovers
		\$2,010	Racine Lock And Dam- Install Culvert Valve Intake Screens
		\$336	Racine Lock And Dam- Locating & Removing Underground Storage Tanks
		\$68	Racine Lock And Dam- Rehab Project Workboat
		\$485	Racine Lock And Dam- Repair Low Voltage Feeder
		\$140	Racine Lock And Dam- Replace Emergency Gate Controls and Load Cells
		\$4,896	Racine Lock And Dam- Replace Entrance Access Bridge
		\$725	Racine Lock And Dam- Replace Handrailing & Safety Rail on Lockwalls
		\$75	Rehab Dam Tainter Gate Gearboxes and Lineshafts - Racine Locks & Dam
		\$6,700	Repair and Rehab Miter Gate and Emergency Gate - Racine Locks & Dam
		\$2,400	Replace Dam Tainter Gates Side Seals - Racine Locks & Dam

Additional Information

- 2019 tonnage (in thousands) : 51,103
- Current Miter Gate In Service Date: 1967
- Projected Year Lock Miter Gates Reach "F" Condition:
Main: Downstream: 2022 Upstream: 2022
Auxiliary: Downstream: 2025 Upstream: 2026
- Projected Miter Gate Replacement:
Main : Downstream: 2021 Upstream: 2025
Auxiliary: Downstream: 2035 Upstream: 2036
- Fee Lands: 408 acres
- Flowage Easement Lands: 1,683 acres
- Project Boundary Line Marked: 18 miles

Congressional Interests

Senator Joe Manchin III D-WV
 Senator Shelley Moore Capito R-WV
 Senator Sherrod Brown D-OH
 Senator Robert Portman R-OH
 Congressman Carol Miller R-WV-03
 Congressman Bill Johnson R-OH-06



**US Army Corps
of Engineers®**

Robert C. Byrd Locks and Dam

Ohio River, OH



Project Features

- Authorization: River and Harbors Acts of 1909 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in August 1937 as Gallipolis Locks and Dam. The name was changed to R. C. Byrd Locks and Dam in 1991 with the construction of two new locks.
- The project includes a non-navigable, high-lift, 1,132 ft. long gated dam. Eight roller gates span 125.5 ft. between 16 ft. piers. There are two parallel locks. The main lock is 110 x 1,200 ft. and the auxiliary lock is 110 x 600 ft., both with miter service gates.
- American Municipal Power (AMP) currently holds a preliminary permit for hydropower development on the Ohio abutment of the dam. The proposed project with include two turbines with a total capacity of 48,000 kilowatts.
- The project has 4 day use recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss could affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 6 thousand visitors annually, contributing \$187 thousand to the local economy, supporting 2 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 34.4 million tons, valued at over \$6.0 billion in commodities. The most common cargo locking though are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- Natural and recreational resources at this project provide social, economic and environmental benefits. Project personnel conducted 6 recreational programs in FY19 that help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self esteem; and increase water safety.
- There are 4 major industries withdrawing water from this pool.
- The minimum fill time for the main lock is 9 minutes and 4.5 minutes for the auxiliary lock.
- It takes approximately 45 minutes for a commercial tugboat with a 15 barge tow and approximately 30 minutes for a pleasure craft to lock through.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$3,288	\$50	Abutment Cell Settlement Investigation - Robert C. Byrd Locks & Dam
		\$633	RC Byrd Lock And Dam- Installation of Security System to include CCTV/EES
		\$244	RC Byrd Lock And Dam- Locating and removing underground storage tanks
		\$236	RC Byrd Lock And Dam- Project Operations Building Rehab
		\$1,465	RC Byrd Lock And Dam- Replace Trash Boom for Lock Intakes
		\$270	Rehab Lock Chamber Culvert Valve Bulkheads - Robert C. Byrd Locks & Dam
		\$150	Repair Access Road Bridge - Robert C. Byrd Locks & Dam
		\$240	Replace Air Compressors - Robert C Byrd Locks & Dam

Additional Information

- 2019 tonnage (in thousands) : 39,619
- Current Miter Gate In Service Date:
Main: 1993 Auxiliary: 1959
- Projected Year Lock Miter Gates Reach
"F" Condition:
Main: Upstream: 2019 Downstream: 2019
Auxiliary: Upstream: 2025 Downstream: 2025
- Projected Miter Gate Replacement:
Main: 2050, Auxiliary: 2027
- Fee Lands: 1,347 acres
- Flowage Easement Lands: 1,798 acres
- Project Boundary Line Marked: 14 miles

Congressional Interests

- Senator Joe Manchin III D-WV
- Senator Shelley Moore Capito R-WV
- Senator Sherrod Brown D-OH
- Senator Robert Portman R-OH
- Congressman Carol Miller R-WV-03
- Congressman Bill Johnson R-OH-06



**US Army Corps
of Engineers**

Willow Island Locks and Dam

Ohio River, OH



Project Features

- Authorization: River and Harbors Acts of 1909 and 1935.
- Primary project purposes are navigation and recreation.
- The project was placed in operation in January 1972.
- The project includes a non-navigable, high-lift, 1,128 ft. dam including 111 ft. fixed weir with an 84 ft. open crest. The dam has eight tainter gates spanning 110 ft. between piers. There are two parallel locks. The main lock is 110 x 1,200 ft. and the auxiliary lock is 110 x 600 ft., both with miter service gates and vertical-lift emergency gates.
- American Municipal Power (AMP) operates a hydropower electric plant on the West Virginia abutment of the dam. The plant includes two turbines with a total capacity of 35,000 KW. Commercial operation of the hydropower plant started in February 2016.
- The project has 3 day use recreation areas.

Consequences of Not Maintaining the Project

- Failure to maintain the project could result in a halt in the movement of commercial navigation. That stoppage would result in loss of rate savings to the shippers and delayed orders for essential commodities including fuel for power plants and raw materials for major industries. In addition to the loss of the navigation purpose, pool loss could jeopardize water supply for municipal and industrial users, loss of electrical energy produced by hydropower plants at the dams, and loss of habitat for aquatic species. Such a pool loss could affect both recreation users and water quality should there be a prolonged loss.



Regional Importance

- The project averages 52 thousand visitors annually, contributing \$1.6 million to the local economy, supporting 18 jobs.
- In calendar year 2018, the volume of cargo transported exceeded 7.7 million tons, with an estimated value of \$848 million in commodities. The most common cargo locking through are coal, petroleum products, gravel, rock, cement, scrap metal and chemicals.
- Natural and recreational resources at this project provide social, economic and environmental benefits.
- There are 6 major industries withdrawing water from this pool.
- The minimum fill time for the main lock is 9 minutes and 4.5 minutes for the auxiliary lock.
- It takes approximately 45 minutes for a commercial tugboat with a 15 barge tow and approximately 30 minutes for a pleasure craft to lock through.

In addition to annual appropriations, this project currently has the following maintenance needs in order operate at an optimum level of service and reliability.

Business Line	FY21 Funding Requests for Maintenance (\$1,000)		Maintenance Needs
	Total	Packages \$	
Navigation	\$8,825	\$411	Implementation of Dam Gate Trunnion Rod Testing - Willow Island Locks & Dam
		\$380	Install Hydraulic Latching Devices on All Miter Gates - Willow Island Locks & Dam
		\$270	Rehab Lock Chamber Culvert Valve Bulkheads - Willow Island Locks & Dam
		\$75	Replace 480V Main Feeder - Willow Island Locks & Dam
		\$6	Update IRRMP for Willow Island L&D
		\$208	Willow Island Lock And Dam- Critical Waterway Signage
		\$2,010	Willow Island Lock And Dam- Install Culvert Valve Intake Screens
		\$244	Willow Island Lock And Dam- Investigation and Removal of Underground Storage Tanks
		\$343	Willow Island Lock And Dam- Repair Upper Riverwall Lock Wall Bullnose
		\$165	Willow Island Lock And Dam- Repairs for Dam Stilling Basin Apron Scour
		\$3,815	Willow Island Lock And Dam- Repairs to the Dam Service Bridge
		\$898	Willow Island Lock And Dam- Replace Handrailing & Safety Rail on Lockwalls

Additional Information

- 2019 tonnage (in thousands) : 44,183
- Current Miter Gate In Service Date: 1972
- Projected Year Lock Miter Gates Reach "F" Condition:
Main: Upstream: 2022 Downstream: 2022
Auxiliary: Upstream: 2021 Downstream: 2024
- Projected Miter Gate Replacement:
Main: Downstream: 2040 Upstream: 2040
Auxiliary: Downstream: 2030 Upstream: 2026
- Fee Lands: 142 acres
- Flowage Easement Lands: 1,607 acres
- Project Boundary Line Marked: 5.6 miles

Congressional Interests

- Senator Joe Manchin III D-WV
- Senator Shelley Moore Capito R-WV
- Senator Sherrod Brown D-OH
- Senator Robert Portman R-OH
- Congressman Davis McKinley R-WV-01
- Congressman Bill Johnson R-OH-06