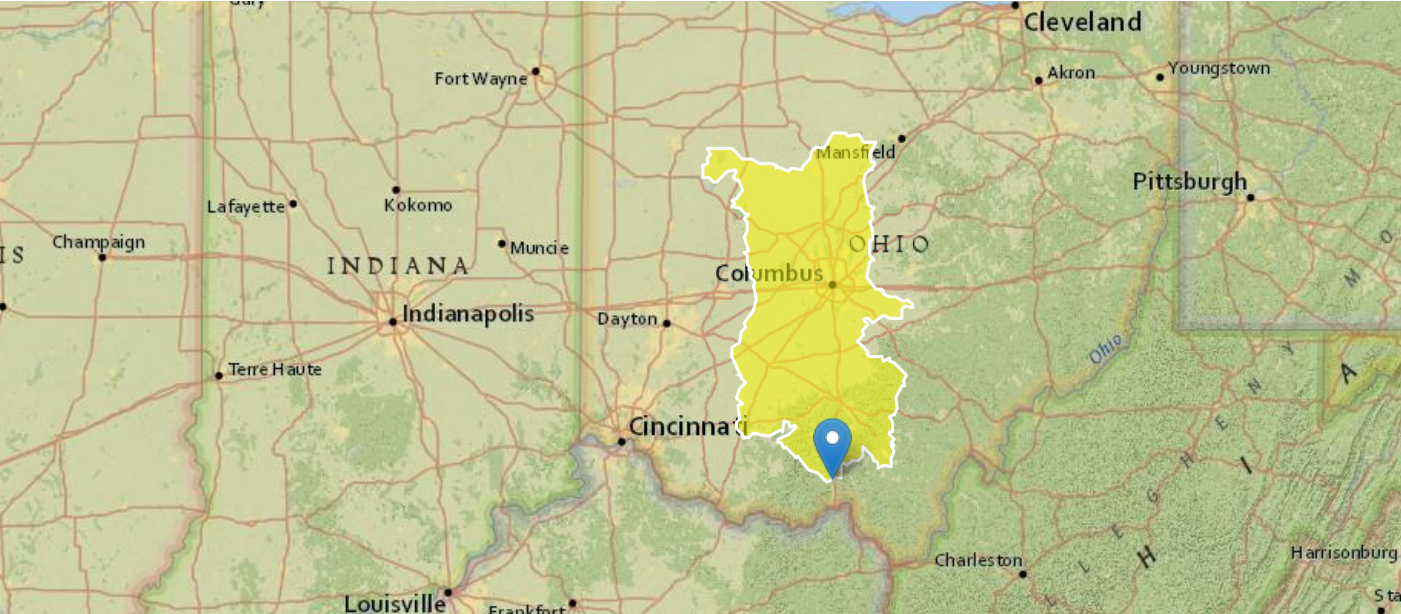


SCI-348-17.51

Region ID: OH
Workspace ID: OH20250127133315282000
Clicked Point (Latitude, Longitude): 38.88143, -83.01750
Time: 2025-01-27 08:33:45 -0500



StreamStats Report for the Title Bridge

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CSL1085LFP	Change in elevation divided by length between points 10 and 85 percent of distance along the longest flow path to the basin divide, LFP from 2D grid	2.27	feet per mi
DRNAREA	Area that drains to a point on a stream	6180	square miles
FOREST	Percentage of area covered by forest	23.8	percent
LAT_CENT	Latitude of Basin Centroid	39.8317	decimal degrees
LC92STOR	Percentage of water bodies and wetlands determined from the NLCD	1.11	percent
LONG_CENT	Longitude Basin Centroid	83.1425	decimal degrees
LONG_OUT	Longitude of Basin Outlet	-83.017524	degrees
OH_SVI2024	Mapped Ohio Streamflow Variability Index as defined in SIR 2024-5075	0.71	Log base 10
OHREGA	Ohio Region A Indicator	1	dimensionless
OHREGC	Ohio Region C Indicator	0	dimensionless
PRECIPCENT	Mean Annual Precip at Basin Centroid	38.3	inches

Parameter Code	Parameter Description	Value	Unit
STREAM_VARG	Streamflow variability index as defined in WRIR 02-4068, computed from regional grid	0.79	dimensionless

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [98.0 Percent (6060 square miles) Peak Flow Full Model Reg A SIR2019 5018]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CSL1085LFP	Stream Slope 10 and 85 Longest Flow Path	2.27	feet per mi	1.53	516
DRNAREA	Drainage Area	6180	square miles	0.04	5989
LC92STOR	Percent Storage from NLCD1992	1.11	percent	0	25.35
OHREGA	Ohio Region A Indicator 1 if in A else 0	1	dimensionless	0	1
OHREGC	Ohio Region C Indicator 1 if in C else 0	0	dimensionless	0	1

Peak-Flow Statistics Parameters [2.0 Percent (113 square miles) Peak Flow Full Model Reg B SIR2019 5018]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CSL1085LFP	Stream Slope 10 and 85 Longest Flow Path	2.27	feet per mi	1.21	457
DRNAREA	Drainage Area	6180	square miles	0.04	6309
LC92STOR	Percent Storage from NLCD1992	1.11	percent	0	7.1
OHREGA	Ohio Region A Indicator 1 if in A else 0	1	dimensionless	0	1
OHREGC	Ohio Region C Indicator 1 if in C else 0	0	dimensionless	0	1

Peak-Flow Statistics Disclaimers [98.0 Percent (6060 square miles) Peak Flow Full Model Reg A SIR2019 5018]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [98.0 Percent (6060 square miles) Peak Flow Full Model Reg A SIR2019 5018]

Statistic	Value	Unit
50-percent AEP flood	59100	ft ³ /s
20-percent AEP flood	81800	ft ³ /s
10-percent AEP flood	98000	ft ³ /s
4-percent AEP flood	120000	ft ³ /s
2-percent AEP flood	136000	ft ³ /s
1-percent AEP flood	154000	ft ³ /s
0.2-percent AEP flood	197000	ft ³ /s

Peak-Flow Statistics Flow Report [2.0 Percent (113 square miles) Peak Flow Full Model Reg B SIR2019 5018]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	PIL	PIU	ASEp
50-percent AEP flood	59100	ft ³ /s	30900	113000	40.1

Statistic	Value	Unit	PIL	PIU	ASEp
20-percent AEP flood	81800	ft^3/s	44800	149000	37.2
10-percent AEP flood	98000	ft^3/s	53300	180000	37.6
4-percent AEP flood	120000	ft^3/s	64900	222000	38.1
2-percent AEP flood	136000	ft^3/s	72800	254000	37.8
1-percent AEP flood	154000	ft^3/s	81500	291000	39.6
0.2-percent AEP flood	197000	ft^3/s	103000	376000	40.3

Peak-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
50-percent AEP flood	59100	ft^3/s
20-percent AEP flood	81800	ft^3/s
10-percent AEP flood	98000	ft^3/s
4-percent AEP flood	120000	ft^3/s
2-percent AEP flood	136000	ft^3/s
1-percent AEP flood	154000	ft^3/s
0.2-percent AEP flood	197000	ft^3/s

Peak-Flow Statistics Citations

Koltun, G.F.,2019, Flood-frequency estimates for Ohio streamgages based on data through water year 2015 and techniques for estimating flood-frequency characteristics of rural, unregulated Ohio streams: U.S. Geological Survey Scientific Investigations Report 2019–5018, 25 p. (<https://dx.doi.org/10.3133/sir20195018>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Statewide annual one day ten year low flow with SVI less than or equal to 0.71 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Low-Flow Statistics Parameters [Statewide annual seven day ten year low flow with SVI less than or equal to 0.76 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Low-Flow Statistics Parameters [Statewide annual thirty day ten year low flow with SVI less than or equal to 0.87 from

SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Low-Flow Statistics Parameters [Statewide annual ninety day ten year low flow with SVI less than or equal to 1.00 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Low-Flow Statistics Disclaimers [Statewide annual one day ten year low flow with SVI less than or equal to 0.71 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Statewide annual one day ten year low flow with SVI less than or equal to 0.71 from SIR 2024-5075]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.11	ft^3/s

Low-Flow Statistics Disclaimers [Statewide annual seven day ten year low flow with SVI less than or equal to 0.76 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Statewide annual seven day ten year low flow with SVI less than or equal to 0.76 from SIR 2024-5075]

Statistic	Value	Unit
7 Day 10 Year Low Flow	9.57	ft^3/s

Low-Flow Statistics Disclaimers [Statewide annual thirty day ten year low flow with SVI less than or equal to 0.87 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Statewide annual thirty day ten year low flow with SVI less than or equal to 0.87 from SIR 2024-5075]

Statistic	Value	Unit
30 Day 10 Year Low Flow	42.5	ft^3/s

Low-Flow Statistics Disclaimers [Statewide annual ninety day ten year low flow with SVI less than or equal to 1.00 from

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Statewide annual ninety day ten year low flow with SVI less than or equal to 1.00 from SIR 2024-5075]

Statistic	Value	Unit
90 Day 10 Year Low Flow	161	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.11	ft^3/s
7 Day 10 Year Low Flow	9.57	ft^3/s
30 Day 10 Year Low Flow	42.5	ft^3/s
90 Day 10 Year Low Flow	161	ft^3/s

Low-Flow Statistics Citations

Branden L. VonIns and G.F. Koltun 2024, Low-flow statistics computed for streamflow gages and methods for estimating selected low-flow statistics for ungaged stream locations in Ohio, water years 1975–2020: U.S. Geological Survey Scientific Investigations Report 2024–5075 (<https://doi.org/10.3133/sir20245075>)

➤ Flow-Duration Statistics

Flow-Duration Statistics Parameters [Statewide 80% duration flow from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
LONG_OUT	Longitude of Basin Outlet	-83.017524	decimal degrees	-86.0944222	-79.7825507
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Flow-Duration Statistics Disclaimers [Statewide 80% duration flow from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Statewide 80% duration flow from SIR 2024-5075]

Statistic	Value	Unit
80 Percent Duration	552	ft^3/s

Flow-Duration Statistics Citations

Branden L. VonIns and G.F. Koltun 2024, Low-flow statistics computed for streamflow gages and methods for estimating selected low-flow statistics for ungaged stream locations in Ohio, water years 1975–2020: U.S. Geological Survey Scientific Investigations Report 2024–5075 (<https://doi.org/10.3133/sir20245075>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Low Flow LatLE 41.2 wri02 4068]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.12	7422
LAT_CENT	Latitude of Basin Centroid	39.8317	decimal degrees	38.68	41.2
PRECIPCENT	Mean Annual Precip at Basin Centroid	38.3	inches	34	43.2

Annual Flow Statistics Flow Report [Low Flow LatLE 41.2 wri02 4068]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Mean Annual Flow	6760	ft^3/s	11.4	11.4

Annual Flow Statistics Citations

Koltun, G. F., and Whitehead, M. T.,2002, Techniques for Estimating Selected Streamflow Characteristics of Rural, Unregulated Streams in Ohio: U. S. Geological Survey Water-Resources Investigations Report 02-4068, 50 p
(<https://pubs.er.usgs.gov/publication/wri024068>)

➤ Monthly Flow Statistics

Monthly Flow Statistics Parameters [Low Flow LatLE 41.2 wri02 4068]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.12	7422
FOREST	Percent Forest	23.8	percent	0	99.1
LAT_CENT	Latitude of Basin Centroid	39.8317	decimal degrees	38.68	41.2
LC92STOR	Percent Storage from NLCD1992	1.11	percent	0	19
PRECIPCENT	Mean Annual Precip at Basin Centroid	38.3	inches	34	43.2
STREAM_VARG	Streamflow Variability Index from Grid	0.79	dimensionless	0.25	1.13

Monthly Flow Statistics Flow Report [Low Flow LatLE 41.2 wri02 4068]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
January Mean Flow	9930	ft^3/s	16.6	16.6
February Mean Flow	9720	ft^3/s	11.9	11.9
March Mean Flow	12600	ft^3/s	14	14
April Mean Flow	10000	ft^3/s	11.2	11.2
May Mean Flow	7910	ft^3/s	19.5	19.5
June Mean Flow	4470	ft^3/s	27	27
July Mean Flow	2550	ft^3/s	28.2	28.2
August Mean Flow	1620	ft^3/s	36.8	36.8

Statistic	Value	Unit	SE	ASEp
September Mean Flow	1190	ft ³ /s	43.6	43.6
October Mean Flow	1280	ft ³ /s	50.8	50.8
November Mean Flow	4080	ft ³ /s	37.5	37.5
December Mean Flow	6950	ft ³ /s	21.8	21.8

Monthly Flow Statistics Citations

Koltun, G. F., and Whitehead, M. T.,2002, Techniques for Estimating Selected Streamflow Characteristics of Rural, Unregulated Streams in Ohio: U. S. Geological Survey Water-Resources Investigations Report 02-4068, 50 p (<https://pubs.er.usgs.gov/publication/wri024068>)

2x 6,950 = 13,900 CFS

➤ Seasonal Flow Statistics

Seasonal Flow Statistics Parameters [Statewide May to November one day ten year low flow with SVI less than or equal to 0.71 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide May to November seven day ten year low flow with SVI less than or equal to 0.77 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide May to November thirty day ten year low flow with SVI less than or equal to 0.86 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide May to November ninety day ten year low flow with SVI less than or equal to 1.00 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide September to November one day ten year low flow with SVI less than or equal to 0.72 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide September to November seven day ten year low flow with SVI less than or equal to 0.76 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide September to November thirty day ten year low flow with SVI less than or equal to 0.87 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide September to November ninety day ten year low flow from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
LONG_OUT	Longitude of Basin Outlet	-83.017524	decimal degrees	-86.0944222	-79.7825507
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Parameters [Statewide December to February low flows from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
LONG_OUT	Longitude of Basin Outlet	-83.017524	decimal degrees	-86.0944222	-79.7825507
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Seasonal Flow Statistics Disclaimers [Statewide May to November one day ten year low flow with SVI less than or equal to 0.71 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide May to November one day ten year low flow with SVI less than or equal to 0.71 from SIR 2024-5075]

Statistic	Value	Unit
1 Day 10 Year lowflow May to Nov	0.773	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide May to November seven day ten year low flow with SVI less than or equal to 0.77 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide May to November seven day ten year low flow with SVI less than or equal to 0.77 from SIR 2024-5075]

Statistic	Value	Unit
7 Day 10 Year lowflow May to Nov	9.57	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide May to November thirty day ten year low flow with SVI less than or equal to 0.86 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide May to November thirty day ten year low flow with SVI less than or equal to 0.86 from SIR 2024-5075]

Statistic	Value	Unit
30 Day 10 Year lowflow May to Nov	42.6	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide May to November ninety day ten year low flow with SVI less than or equal to 1.00 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide May to November ninety day ten year low flow with SVI less than or equal to 1.00 from SIR 2024-5075]

Statistic	Value	Unit
90 Day 10 Year lowflow May to Nov	161	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide September to November one day ten year low flow with SVI less than or equal to 0.72 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide September to November one day ten year low flow with SVI less than or equal to 0.72 from SIR 2024-5075]

Statistic	Value	Unit
1 Day 10 Year lowflow Sep to Nov	4.75	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide September to November seven day ten year low flow with SVI less than or equal to 0.76 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide September to November seven day ten year low flow with SVI less than or equal to 0.76 from SIR 2024-5075]

Statistic	Value	Unit
7 Day 10 Year lowflow Sep to Nov	12	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide September to November thirty day ten year low flow with SVI less than or equal to 0.87 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide September to November thirty day ten year low flow with SVI less than or equal to 0.87 from SIR 2024-5075]

Statistic	Value	Unit
30 Day 10 Year lowflow Sep to Nov	54.3	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide September to November ninety day ten year low flow from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide September to November ninety day ten year low flow from SIR 2024-5075]

Statistic	Value	Unit
90 Day 10 Year lowflow Sep to Nov	405	ft^3/s

Seasonal Flow Statistics Disclaimers [Statewide December to February low flows from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Statewide December to February low flows from SIR 2024-5075]

Statistic	Value	Unit
1 Day 10 Year lowflow Dec to Feb	375	ft^3/s
7 Day 10 Year lowflow Dec to Feb	476	ft^3/s
30 Day 10 Year lowflow Dec to Feb	1280	ft^3/s
90 Day 10 Year lowflow Dec to Feb	5450	ft^3/s

Seasonal Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
1 Day 10 Year lowflow May to Nov	0.773	ft^3/s
7 Day 10 Year lowflow May to Nov	9.57	ft^3/s

Statistic	Value	Unit
30 Day 10 Year lowflow May to Nov	42.6	ft^3/s
90 Day 10 Year lowflow May to Nov	161	ft^3/s
1 Day 10 Year lowflow Sep to Nov	4.75	ft^3/s
7 Day 10 Year lowflow Sep to Nov	12	ft^3/s
30 Day 10 Year lowflow Sep to Nov	54.3	ft^3/s
90 Day 10 Year lowflow Sep to Nov	405	ft^3/s
1 Day 10 Year lowflow Dec to Feb	375	ft^3/s
7 Day 10 Year lowflow Dec to Feb	476	ft^3/s
30 Day 10 Year lowflow Dec to Feb	1280	ft^3/s
90 Day 10 Year lowflow Dec to Feb	5450	ft^3/s

Seasonal Flow Statistics Citations

Branden L. VonIns and G.F. Koltun 2024, Low-flow statistics computed for streamflow gages and methods for estimating selected low-flow statistics for ungaged stream locations in Ohio, water years 1975–2020: U.S. Geological Survey Scientific Investigations Report 2024–5075 (<https://doi.org/10.3133/sir20245075>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide harmonic mean flow with SVI less than or equal to 0.91 from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

General Flow Statistics Disclaimers [Statewide harmonic mean flow with SVI less than or equal to 0.91 from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide harmonic mean flow with SVI less than or equal to 0.91 from SIR 2024-5075]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	375	ft^3/s

General Flow Statistics Citations

Branden L. VonIns and G.F. Koltun 2024, Low-flow statistics computed for streamflow gages and methods for estimating selected low-flow statistics for ungaged stream locations in Ohio, water years 1975–2020: U.S. Geological Survey Scientific Investigations Report 2024–5075 (<https://doi.org/10.3133/sir20245075>)

➤ Flow Percentile Statistics

Flow Percentile Statistics Parameters [Low Flow LatLE 41.2 wri02 4068]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.12	7422
LAT_CENT	Latitude of Basin Centroid	39.8317	decimal degrees	38.68	41.2
LC92STOR	Percent Storage from NLCD1992	1.11	percent	0	19
LONG_CENT	Longitude of Basin Centroid	83.1425	decimal degrees	80.53	84.6
STREAM_VARG	Streamflow Variability Index from Grid	0.79	dimensionless	0.25	1.13

Flow Percentile Statistics Flow Report [Low Flow LatLE 41.2 wri02 4068]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
25th Percentile Flow	262	ft^3/s	29.2	29.2
50th Percentile Flow Median	1200	ft^3/s	40.3	40.3
75th Percentile Flow	4670	ft^3/s	47.9	47.9

Flow Percentile Statistics Citations

Koltun, G. F., and Whitehead, M. T., 2002, Techniques for Estimating Selected Streamflow Characteristics of Rural, Unregulated Streams in Ohio: U. S. Geological Survey Water-Resources Investigations Report 02-4068, 50 p (<https://pubs.er.usgs.gov/publication/wri024068>)

➤ Bankfull Statistics

Bankfull Statistics Parameters [19.0 Percent (1150 square miles) Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.07722	940.1535

Bankfull Statistics Parameters [19.0 Percent (1150 square miles) Appalachian Plateaus P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.081081	536.995602

Bankfull Statistics Parameters [81.0 Percent (5020 square miles) Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [81.0 Percent (5010 square miles) Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [19.0 Percent (1150 square miles) Appalachian Highlands D Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [19.0 Percent (1150 square miles) Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	569	ft
Bieger_D_channel_depth	13.7	ft
Bieger_D_channel_cross_sectional_area	8040	ft^2

Bankfull Statistics Disclaimers [19.0 Percent (1150 square miles) Appalachian Plateaus P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [19.0 Percent (1150 square miles) Appalachian Plateaus P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	670	ft
Bieger_P_channel_depth	14.1	ft
Bieger_P_channel_cross_sectional_area	9390	ft^2

Bankfull Statistics Flow Report [81.0 Percent (5020 square miles) Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	251	ft
Bieger_D_channel_depth	7.92	ft
Bieger_D_channel_cross_sectional_area	1330	ft^2

Bankfull Statistics Flow Report [81.0 Percent (5010 square miles) Central Lowland P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	263	ft
Bieger_P_channel_depth	8.17	ft
Bieger_P_channel_cross_sectional_area	1160	ft^2

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	267	ft
Bieger_USA_channel_depth	7.74	ft
Bieger_USA_channel_cross_sectional_area	1900	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bieger_D_channel_width	311	ft
Bieger_D_channel_depth	9.02	ft
Bieger_D_channel_cross_sectional_area	2600	ft^2
Bieger_P_channel_width	340	ft
Bieger_P_channel_depth	9.3	ft
Bieger_P_channel_cross_sectional_area	2720	ft^2
Bieger_USA_channel_width	267	ft
Bieger_USA_channel_depth	7.74	ft
Bieger_USA_channel_cross_sectional_area	1900	ft^2

Bankfull Statistics Citations

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDFCoverPages)

➤ Probability Statistics

Probability Statistics Parameters [Statewide seasonal low flow probability of being greater than 0.01 cubic feet per second from SIR 2024-5075]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.21	540
OH_SVI2024	Mapped Ohio Streamflow Variability Index	0.71	Log base 10 cubic feet per second	0.41	1.23

Probability Statistics Disclaimers [Statewide seasonal low flow probability of being greater than 0.01 cubic feet per second from SIR 2024-5075]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Probability Statistics Flow Report [Statewide seasonal low flow probability of being greater than 0.01 cubic feet per second from SIR 2024-5075]

Statistic	Value	Unit
Probability that Apr-Mar 1-day, 10-yr low flow is over 0.01	1	dim
Probability that Apr-Mar 7-day, 10-yr low flow is over 0.01	1	dim
Probability that Apr-Mar 30-day, 10-yr low flow is over 0.01	1	dim
Probability that May-Nov 1-day, 10-yr low flow is over 0.01	1	dim
Probability that May-Nov 7-day, 10-yr low flow is over 0.01	1	dim
Probability that May-Nov 30-day, 10-yr low flow is over 0.01	1	dim
Probability that Sep-Nov 1-day, 10-yr low flow is over 0.01	1	dim

Statistic	Value	Unit
Probability that Sep-Nov 7-day, 10-yr low flow is over 0.01	1	dim
Probability that Sep-Nov 30-day, 10-yr low flow is over 0.01	1	dim

Probability Statistics Citations

Branden L. VonIns and G.F. Koltun 2024, Low-flow statistics computed for streamflow gages and methods for estimating selected low-flow statistics for ungaged stream locations in Ohio, water years 1975–2020: U.S. Geological Survey Scientific Investigations Report 2024–5075 (<https://doi.org/10.3133/sir20245075>)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [16.0 Percent (1010 square miles) Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.1	10000

Maximum Probable Flood Statistics Parameters [84.0 Percent (5170 square miles) Crippen Bue Region 6]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6180	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [16.0 Percent (1010 square miles) Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	431000	ft^3/s

Maximum Probable Flood Statistics Flow Report [84.0 Percent (5170 square miles) Crippen Bue Region 6]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	808000	ft^3/s

Maximum Probable Flood Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	748000	ft^3/s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

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Application Version: 4.26.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

Hydraulic Results with no TAF installed.

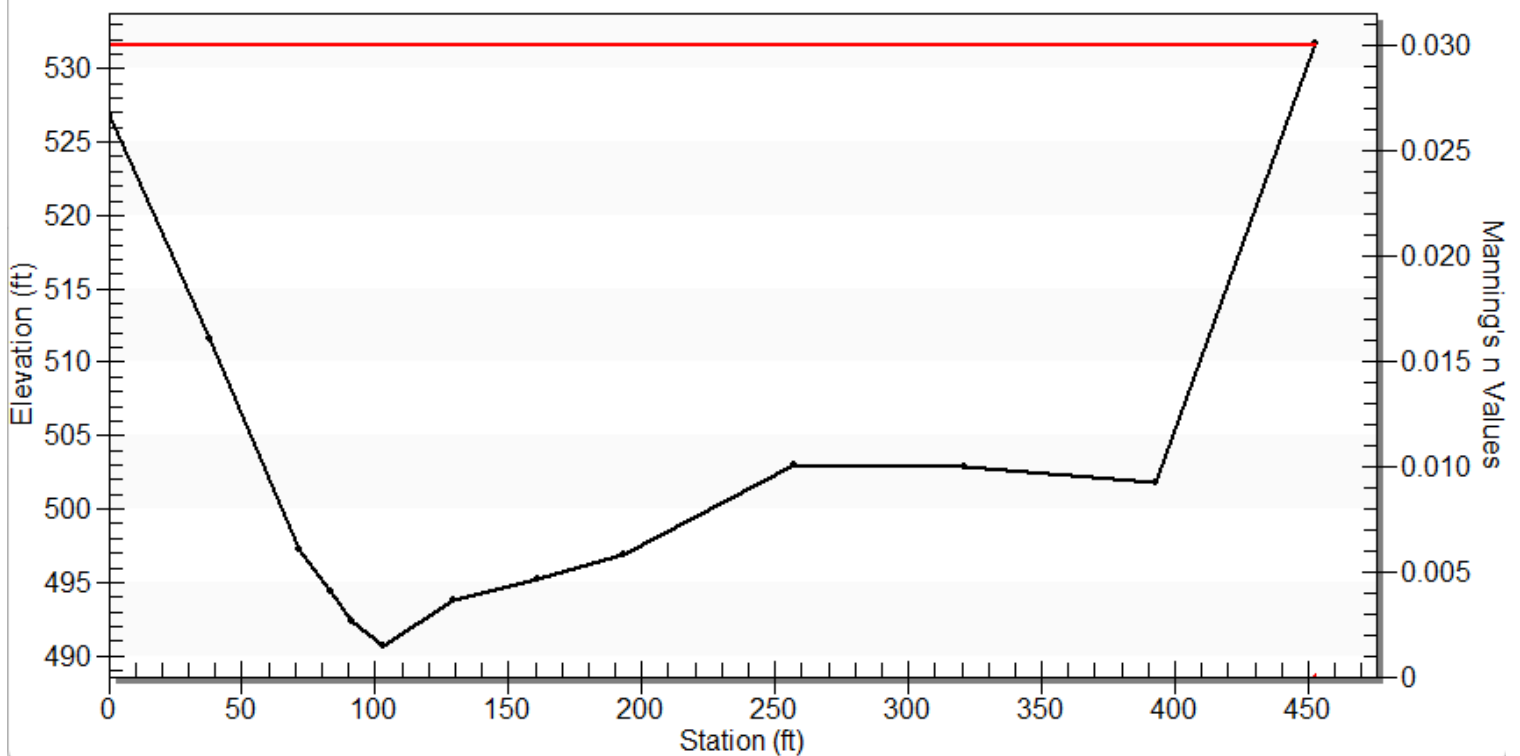
Culvert Crossing: SCI-348-1751

Crossing Summary Table

Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	Ex Channel Discharge (cfs)	Roadway Discharge (cfs)	Iterations
503.97	1 year	13900.00	13900.00	0.00	1
510.21	2 year	59100.00	59100.00	0.00	1
550.00	Overtopping	365224.00	365224.00	0.00	Overtopping

STD

Tailwater/Channel Cross Section



Hydraulic Results with TAF installed.

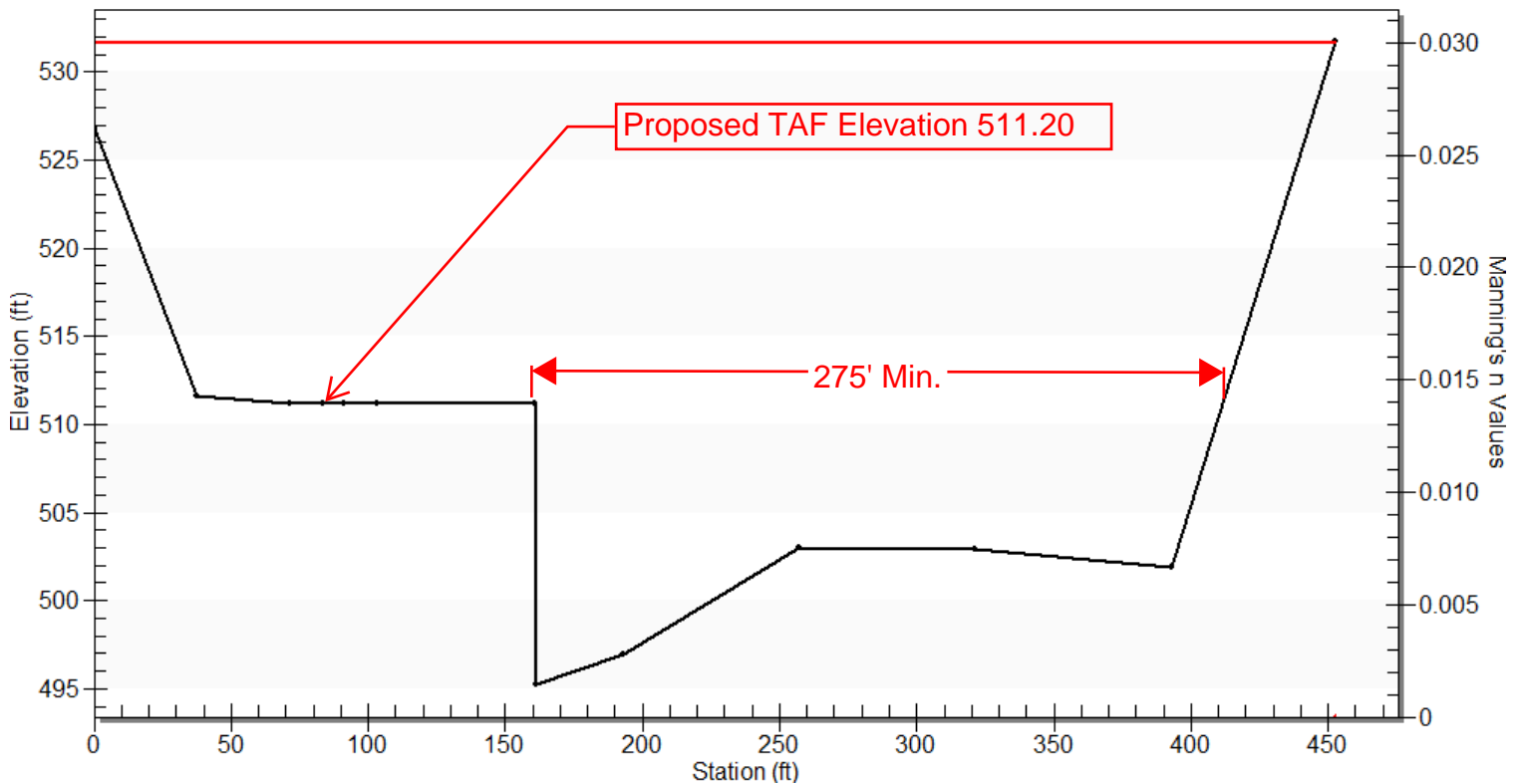
Culvert Crossing: SCI-348-1751

Crossing Summary Table

Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	Ex Channel with TAF Discharge (cfs)	Roadway Discharge (cfs)	Iterations
507.86	1 year	13900.00	13900.00	0.00	1
518.69	2 year	59100.00	59100.00	0.00	1
550.00	Overtopping	345212.67	345212.67	0.00	Overtopping

Elevation below OHWM Elevation of 510.20

Tailwater/Channel Cross Section



Project:	SCI-348-17.51	PID:	119950
PERFORMED BY:	MCM	DATE:	3/10/2025
CHECKED BY:		DATE:	
SUBJECT:	TAF		
STREAM:	Scioto River		

TAF DESIGN

STREAM CHARACTERISTICS AT PROPOSED TAF LOCATION (NO TAF INSTALLED)

Is StreamStats data for the site available?	Yes
Is the stream's flow influenced by hydraulic controlling features (i.e. dams)?	No
Basin drainage area (mi ²)	6,180
Ordinary High Water Mark elevation [OHWM] (ft)	510.2
Top of bank elevation (ft)	523.0
50% AEP flow water surface elevation (ft)	518.6
OHWM flow rate [without TAF] (cfs)	23,013
Maximum mean monthly flow (cfs)	6950
2x maximum mean monthly flow (cfs)	13900
2x maximum mean monthly flow water surface elevation (ft)	503.97

Tier 1 TAF Analysis

Proposed TAF obstruction	Partial
For partial TAFs: minimum channel opening width (ft) at the OHWM elevation	275'
Calculated backwater elevation (ft) with the TAF in place.	507.86
Does the site pass two-times highest monthly flow without backwater rise above OHWM with TAF in place?	Yes
End Analysis: Proceed to TAF Stability section and Summary.	
After verifying OHWM, does the site pass 2x highest monthly flow?	Yes

Tier 2 TAF Analysis

Do not complete this section, analysis complete.

Calculated backwater elevation	
Modified height of TAF (backwater elevation+1' freeboard)	1
Calculated backwater from modified TAF height	
Calculated freeboard	1
TAF Design acceptable (greater than 0.5-feet)	
Is the TAF height acceptable based on viability considerations?	
Proceed to Tier 3 TAF Design	
Final top of TAF elevation (ft)	1.0

Tier 3 TAF Analysis

Complete if adjusted STD is necessary

Initial height of TAF (1' above OHWM or necessary to facilitate construction)
 Calculated STD (flow producing WSE equal to height of TAF)
 Is historical waterway flow available (USGS Gage data availability)?
 Does probability of exceedance of STD facilitate the project schedule?

TAF STABILITY- Based on Bureau of Reclamation

Suggested rock sizing and corresponding Manning's n based on hydraulic analysis velocities

Note: Sizing based on velocity due to unavailability of accurate point shear in 1D models

Velocity at edge of TAF corresponding to 20% AEP flow (ft/s)

9.34

Suggested dumped rock size

ODOT Type B (n=0.042)

SUMMARY

Streamflow data source

Stream contains hydraulic controlling features?

Top of TAF elevation (ft)

Partial TAF: minimum channel opening width (ft) at the OHWM elevation:

Suggested size for TAF dumped rock:

Suggested HEC-RAS scoping (1D or 2D)

Stream Stats
No
511.21
275'
ODOT Type B (n=0.042)
1D Hydraulic Model