



Indiana Department of Environmental Management Office of Water Quality Wetlands Section

Publication Date:
October 28, 2024

Closing Date:
November 11, 2024

PUBLIC NOTICE

IDEM ID Number:
2024-879-35-EJW-WQC

Corps of Engineers ID Number:
LRL-2023-00945-sjk

To all interested parties:

This letter shall serve as a formal notice of the receipt of an application for **Section 401 Water Quality Certification** by the Indiana Department of Environmental Management (IDEM). The purpose of the notice is to inform the public of active applications submitted for water quality certification under Section 401 of the Clean Water Act (33 U.S.C. § 1341) and to solicit comments and information on any impacts to water quality related to the proposed project. IDEM will evaluate whether the project complies with Indiana's water quality standards as set forth at 327 IAC 2.

- 1. Applicant:** Jerry Sweeten
Ecosystems Connections Institute
9130 North 600 East
Denver, IN 46926
- 2. Agent:** Jerry Sweeten
Ecosystems Connections Institute
9130 North 600 East
Denver, IN 46926
- 3. Project location:** Approximately 800 feet south of W Market St and N Jefferson St in the city of Huntington, Huntington County.
Latitude: 40.87964 Longitude: -85.49541
- 4. Affected waterbody:** Little River
- 5. Project Description:** Remove a low-head dam from the Little River in Huntington. Removal will improve fish passage, human safety, and reconnect 423 stream miles. The 120-foot long, 4-foot tall, and 3-foot wide concrete dam will be removed down to the foundation and no material will remain in the stream. The dam will be removed incrementally to ensure a staged release of water. Access points for heavy equipment along the streambanks will be restored following the dam removal.
Additional information may be found on line at <https://www.in.gov/idem/5474.htm>

Comment period: Any person or entity who wishes to submit comments or information relevant to the aforementioned project may do so by the closing date noted above. Only comments or information related to water quality or potential impacts of the project on water quality can be considered by IDEM in the water quality certification review process.

Public Hearing: Any person may submit a written request that a public hearing be held to consider issues related to water quality in connection with the project detailed in this notice. The request for a hearing should be submitted within the comment period to be considered timely. The request should also state the reason for the public hearing as specifically as possible to assist IDEM in determining whether a public hearing is warranted.

Questions? Additional information may be obtained from Evan White, Project Manager, by phone at 317-671-6698 or by e-mail at evwhite@idem.in.gov. Please address all correspondence to the project manager and reference the IDEM project identification number listed on this notice. Indicate if you wish to receive a copy of IDEM's final decision. Written comments and inquiries may be forwarded to -

Indiana Department of Environmental Management
100 North Senate Avenue
MC65-42 WQS IGCN 1255
Indianapolis, Indiana 46204-2251 FAX: 317/232-8406



APPLICATION FOR AUTHORIZATION TO DISCHARGE DREDGED OR FILL MATERIAL TO ISOLATED WETLANDS AND/OR WATERS OF THE STATE

State Form 51821 (R2 / 11-15)

Indiana Department of Environmental Management

- INSTRUCTIONS:**
1. Read the instruction sheet before filling out this form.
 2. You must complete all applicable sections of this form

1. Applicant Information		2. Agent Information	
Name of Applicant Ecosystems Connections Institute		Name of Agent Jerry Sweeten	
Mailing address (Street/ PO Box/ Rural Route, City, State, ZIP Code) Jerry Sweeten Restoration Ecologist 9130 North 800 East Denver, Indiana 46928		Mailing address (Street/ PO Box/ Rural Route, City, State, ZIP Code) Ecosystems Connections Institute 9130 North 800 East Denver, IN 46928	
Daytime Telephone Number 260-901-0561		Daytime Telephone Number 260-901-0561	
Fax Number		Fax Number	
E-mail address (optional) jesweeten@ecosystemsconnections.com		E-mail address (optional) jesweeten@ecosystemsconnections.com	
Contact person (required) Jerry Sweeten		Contact person	
3. Project / Tract Location			
County Huntington		Nearest city or town Huntington, Indiana	
U.S.G.S. Quadrangle map name (Topographic map)		Project street address (if applicable) NA	
Quarter	Section	Township	Range
Type of aquatic resource(s) to be impacted (Attach Worksheet One.) Stream restoration from removal of a low-head dam from the Little River. Fish passage and water quality will improve as well as human safety.		Project name or title (if applicable) Removal of the Little River Dam from the Blue River in Edinburgh, Indiana	
Other location descriptions or driving directions Lat. 40.880125 Long. -85.495310 The dam is 170-meters downstream of the State Road 224/State Road 5 or Jefferson Street Bridge.			
4. Project Purpose and Description (Use additional sheet(s) if required.)			
Has any construction been started? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Anticipated start date (month, day, year) 08/01/2024	
If yes, how much work is completed?			
Purpose of project and overview of activities Remove the Low Head Dam from the Little River in Huntington, IN. The City of Huntington has granted ECI permission (in writing) to access and remove the dam. See addendum for project details.			

5. Avoidance, Minimization, and Mitigation Information: Applicants must answer all of the following questions

(Use additional sheet(s) if necessary - provide a detailed response to all applicable questions.)

A. For projects with Class II isolated wetlands –

1. Is there a reasonable alternative to the proposed activity?
No. Full removal will improve fish passage, human safety, and restore full fluvial process.

2. Is the proposed activity reasonably necessary or appropriate?
Yes. This is a very dangerous dam in an urban area. Removal of the dam will improve fish passage, restore full fluvial function to the river, and make the stream safe for recreation.

B. For projects with Class III wetlands, adjacent wetlands, and/or streams, rivers, lakes or other water bodies –

1. Is there a practicable alternative to the proposed activity?

2. Have practicable and appropriate steps to minimize impacts to water resources been taken?

Describe all compensatory mitigation required for unavoidable impacts.

6. Drawing / Plan Requirements (Applicants must provide the following.)

- a. Top/aerial/overhead views of the project site showing existing conditions and proposed construction.
- b. Cross sectional view of areas of fill or alterations to streams and other waters.
- c. North arrow, scale, property boundaries.
- d. Include wetland delineation boundary (if applicable). Label all wetlands (jurisdictional, isolated and exempt) as I-1, I-2, I-3, etc. and the mitigation areas as M-1, M-2, etc.
- e. Location of all surface waters, including wetlands, erosion control measures, existing and proposed structures, fill and excavation locations, disposal area for excavated material, including quantities, and wetland mitigation site (if applicable).
- f. Approximate water depths and bottom configurations (if applicable).

7. Supplemental Application Materials (Applicants must provide the following.)

- a. A wetland delineation of all wetlands on the project site (for projects with wetland impacts).
- b. At least three photographs of the project site. Indicate the photo locations on the project plans.
- c. If isolated wetlands are present, a letter from the Corps of Engineers verifying this statement.
- d. Wetland mitigation plan and monitoring report.
- e. Classification of all isolated wetlands on the tract (if isolated wetlands are present onsite).
- f. Copies of all applicable local permits and/or resolutions pertaining to the project or tract.
- g. Tract history (see instructions).

8. Additional information that MAY be required (IDEM will notify you if needed.)

- a. Erosion control and/or storm water management plans.
- b. Sediment analysis.
- c. Species surveys for fish, mussels, plants and threatened or endangered species.
- d. Stream habitat assessment.
- e. Any other information IDEM deems necessary to review the proposed project.

9. Permitting Requirements

a. Does this project require the issuance of a Department of the Army Section 404 Permit from the US Army Corps of Engineers? Yes No
 If no, you do not need to answer Part b.

b. Have you applied for an Army Corps of Engineers Section 404 permit? Yes No
 If yes, please supply the Corps of Engineers ID Number, the Corps of Engineers District, the project manager, and a copy of any correspondence with the Corps. If no, contact the Army Corps of Engineers regarding the possible need for a permit application.
 The permit will be filed at the same time this permit is sent to IDEM.

c. Have you applied for, received, or been denied a permit from the Department of Natural Resources for this project? Yes No
 Please give the permit name, permit number, and date of application, issuance or denial.
 FW-32600-0 and date of application 20 February 2024

d. Have you applied for, received, or been denied any other federal, state, or local permits, variances, licenses, or certifications for this project?
 Yes No
 Please give the permit name, agency from which it was obtained, permit number, and date of issuance or denial.
 Section 106 historic review. This is in process and coordinated by James Heimlich, ECI certified archaeologist

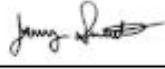
10. Adjoining Property Owners and Addresses

List the names and addresses of landowners adjacent to the property on which your project is located and the names and addresses of other persons (or entities) potentially affected by your project. Use additional sheet(s) if required.

Name Richard Strick, Mayor Address (number and street) 360 Cherry Street City State ZIP Code Huntington IN 46127	Name Daniel and Smantha Beemer Address (number and street) P.O. Box 163 City State ZIP Code Huntington IN 46750
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code

11. Signature - Statement of Affirmation

I certify that I am familiar with the information contained in this application and, to the best of my knowledge and belief, such information is true and accurate. I certify that I have the authority to undertake and will undertake the activities as described in this application. I am aware that there are penalties for submitting false information. I understand that any changes in project design subsequent to IDEM's granting of authorization to discharge to a water of the state are not authorized and I may be subject to civil and criminal penalties for proceeding without proper authorization. I agree to allow representatives of the IDEM to enter and inspect the project site. I understand that the granting of other permits by local, state, or federal agencies does not release me from the requirement of obtaining the authorization requested herein before commencing the project.

Applicant's Signature: 

Date: 03/01/2024
(mm/dd/yyyy)

Print Name: Jerry Sweeten

Title: Senior Scientist



IDNR Supplemental Information Huntington Dam Removal FW-32600

Removal of a low-head dam and fish passageway barrier in Little River near Huntington, Indiana: A conservation partnership approach to ecosystem restoration



Jacob Brinkman, Project Manager
Wetlands and Stormwater Section, Office of Water Quality
100 North Senate Avenue, Room 1255
Indianapolis Indiana 46204
Clean Water Act Section 401
And
Sarah Keller
Team Leader
Indianapolis Regulatory Office
Louisville District, USACE

PROJECT TITLE AND TYPE:

Removal of the Thompson Mill Dam from the Big Blue River in
Edinburgh, Indiana: A conservation partnership approach to ecosystem
restoration

PROJECT PARTNERS:

1. Kevin Haupt, Biologist and Director
United States Fish and Wildlife Service and Ohio River Basin Fish
Habitat Partnership
Carterville Fish and Wildlife Conservation Office
292 San Diego Rd
Carbondale, IL 62901
Office: (618) 997-6869 ex. 122
Email: kevin_haupt@fws.gov
2. Douglas Nusbaum
LARE Restoration Biologist
IDNR - Division of Fish & Wildlife
1353 S. Governors Drive
Columbia City, IN 46725
Email: DNusbaum@dnr.IN.gov
3. City of Huntington
Mayor Richard Strick
360 Cherry Street
Huntington, IN 46750
Contact: Bryn Keplinger
Director of Community Development & Redevelopment
Email: bryn.keplinger@huntington.in.us
4. Ecosystems Connections Institute,
LLC Melinda Sweeten, President
Herb Manifold, MS, Senior Research Technician
Jerry Sweeten, Ph.D., Senior Research Scientist and Principal Investigator
9130 North 600 East
Denver, Indiana 46926
Email: jesweeten@ecosystemsconnections.com
Phone: 260-901-0561



Table 1. Based on the revision of 40 CFR Part 121 (Clean Water Act Section 401 Certification Rule), a 401 Certification request must include the following information effective September 11, 2020:

1. The applicant(s) [project proponent(s)] and a point of contact.
2. The proposed project.
3. The applicable federal license or permit.
4. The location and nature of any potential discharge that may result from the proposed project and the location of receiving waters.
5. A description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge.
6. A list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received.
7. Documentation that a pre-filing meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request.
8. A certification statement as follows: “The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief”.
9. A statement as follows: “The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time”.

***See responses below**



1. The applicant(s) (project proponent) and point of contact

Ecosystems Connections Institute, LLC

Melinda Sweeten, President

*Jerry Sweeten, Ph.D., Senior Research Restoration Ecologist and Principal Investigator

9130 North 600 East

Denver, IN 46926

Email: jesweeten@ecosystemsconnections.com

Phone: 260.901.0561

2. The Proposed Project

- a. The Little River of northern Indiana is a 23-mile-long tributary to the Wabash River in northern Indiana and joins the Wabash River at RM 406. The Little River watershed is 75% cultivated agriculture and 284 square miles. The remainder of the watershed is fragmented small riparian forests, and the upper part of the watershed is within the suburban area of Ft. Wayne, IN and the Little Wetlands. The stream is notable from a historical and cultural perspective and runs through the southside of Huntington, IN. There is one low-head dam and fish passage barrier in the Little River at RM 2.2 above the confluence with the Wabash River. The dam is approximately 120-feet long and 4-feet tall and 3-feet wide. Removal of this barrier will reconnect 423-stream miles (181,124-Acres) above the dam and open nearly 2,500 feet of new fish and mussel habitat that is currently in the pool behind the dam. The Little River is within the habitat range of several important aquatic species and upland species. As with many streams in North America, the Little had numerous low head dams constructed in the basin, but this dam is the last one remaining and removal would reconnect the entire basin. Removal of the dam is fully supported by the Mayor of Huntington and removal will also improve safety for recreational use of the stream. We hope to remove this dam in the late summer or early fall 2024.

12-DIGIT HYDROLOGIC UNIT CODE (HUC) and Location

The proposed barrier in the Little River in Huntington Indiana. 8-Digit Hydrologic Unit Code 05120101 in the upper Wabash River basin. The dam is located at (RM 2.2) from the confluence with the Wabash River. The dam is located at Latitude 40.879625 and Longitude -85.495396 or 570-feet downstream of the State Road 5 Bridge in Huntington.



3. The applicable federal license or permits required.
 - a. Section 404 from USACE
 - b. IDNR Floodway permit: FW-32600-0 (in-process)
 - c. Section 106 Historical review and MOA from SHPO (In Process)
 - i. ECI Archaeologist, James Heimlich, is leading this process.

4. The location and nature of any potential discharge that may result from the proposed project and the location of receiving waters.
 - a. The “discharge” from removal of this dam will consist of temporary placement of riprap on the stream bank above the ordinary high-water mark to access the dam. It may be necessary to build a riprap pathway behind the dam for the equipment to be positioned to remove the dam and place the concrete into hauling trucks. This riprap pathway would be approximately 15-foot wide, 100-foot long, and one foot thick for an estimated 55 cubic yards of riprap or 0.034-Acres. The dam is made of concrete and approximately 120-foot long and 4-foot tall and 3-foot wide. The dam will be removed down to the foundation. All concrete from the dam and all riprap used to access the dam will be removed. No material will remain in the stream. The streambank where equipment entered the stream will be stabilized after the dam has been removed, seeded with an erosion blanket.

5. A description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge.
 - a. We will work closely with the contractor to minimize the amount of riprap used to construct the temporary pathway and to ensure all material is removed after the dam is removed. The dam will be removed incrementally to ensure a staged release of water from the pool that is about 350-foot long. The amount of stream substrate behind the dam is < 2-feet. The substrate behind the dam consists of sand, gravel, and cobble.



6. A list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received.
 - a. United States Army Corps of Engineers (USACE) 404 Permit
Sarah Keller
Team Leader
Regulatory Specialist
Indianapolis Regulatory Office
Louisville District, USACE
 - b. Indiana Department of Natural Resources
Division of Water (in process as of 20 February 2024) FW- FW-32600-0
 - c. Section 106 Archaeology MOA
United States Fish and Wildlife Service, USACE, and IDNR Division of Historical Preservation and Archaeology
Cathy Draeger-Williams
Archaeologist
Indiana Department of Natural Resources
Division of Historic Preservation and Archaeology
Phone: (317) 234-3791
 - d. United States Fish and Wildlife Service
Will Tucker
U.S. Fish & Wildlife Service
Indiana Field Office
620 South Walker
Bloomington, IN 47403
(812) 902-1829
Email: William_tucker@fws.gov



7. Documentation that a pre-filing meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request.

I've attached my inspection reports for these visits (Huntington and Charles Mill Dam). Let me know if you have any questions or have anything to add. I am ready for the application whenever you are!

From: Parsons, Heather <HParsons@idem.IN.gov>

Sent: Thursday, April 28, 2022 10:16 AM

To: Jerry Sweeten <jesweeten@ecosystemsconnections.com>; Draeger-Williams, Cathy <CDraeger-Williams@dnr.in.gov>; Keller, Sarah J CIV USARMY CELRL (USA) <Sarah.J.Keller@usace.army.mil>; Buffington, Matt <MBuffington@dnr.IN.gov>; Haurert, Nicholas W <NHaurert@dnr.IN.gov>; Taylor, Ashley D (DNR) <AsTaylor1@dnr.IN.gov>; Robinson, William <WRobins@idem.IN.gov>

Subject: RE: Low-head dam coordination meeting

Jerry, I hope to get through the red flag review this week and Will will be sending out his response as well. From what I can tell, I see no reason to wait to submit the application for the Marion dam as soon as you are ready if everyone else has no additional concerns.

Thank you,



Heather Parsons, Special Projects Coordinator
Office of Water Quality
100 North Senate Avenue, Room 1255
Indianapolis Indiana 46204
Phone: (317) 233-2482
hparsons@idem.IN.gov

Principal Investigator

Ecosystems Connections Institute, LLC
Jerry Sweeten, Ph.D., Senior Research Scientist and Principal Investigator
9130 North 600 East
Denver, Indiana 46926
Email: jesweeten@ecosystemsconnections.com
Phone: 260-901-0561



8 and 9 Certification Statements:

1. We (Ecosystems Connections Institute) hereby certify that all information contained herein is true, accurate, and complete to the best of our knowledge and belief (Item number 8 in Table 1).
2. We request that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time (Item number 9 in Table 1).
3. Section 106 Memorandum of Agreement (MOA) is in process and being coordinated by:

James Heimlich, Historian-Principal Investigator/Archaeologist
Ecosystems Connections Institute
Phone: 574-850-6003
Email: jheimlich@ecosystemsconnections.com



Maps and Figures

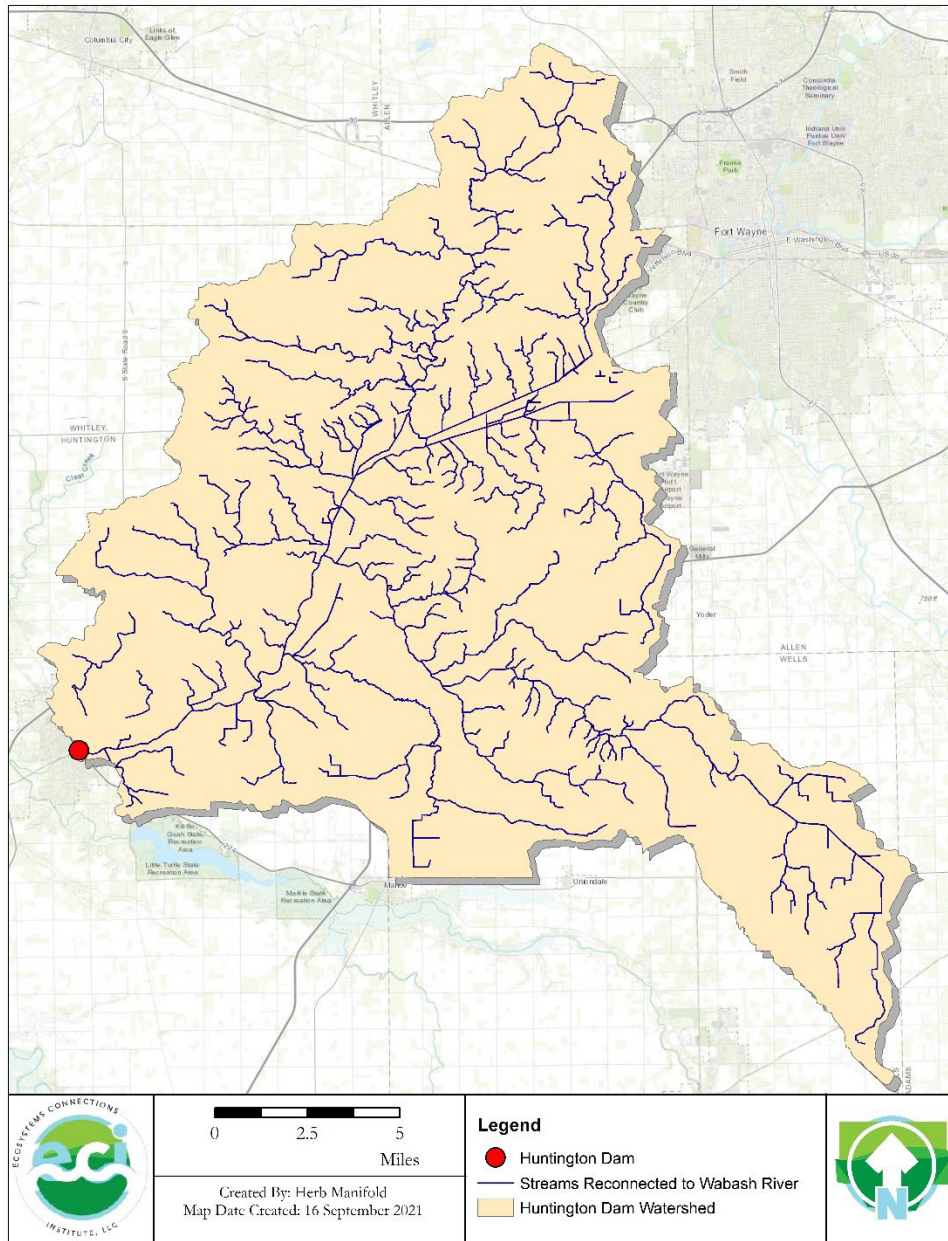


Figure 1. Watershed above the low head dam in the Little Wabash River at Huntington, Indiana. The watershed is 182,124-Acres and 70% cultivated agriculture and about 20% urban. The low head dam is located at RM 2.2 and removal will reconnect the entire basin with the Wabash River or 423 stream miles.

Cross Sections:

Cross sectional data was collected for 3 cross sections near Huntington dam. Downstream cross sections include 125 feet downstream from the dam. Upstream cross sections include 100 feet, 950 feet upstream of the dam. Data expressed in the cross sections are a combination of three sources. Areas above the original 2017 pool elevation were extracted from the 2017 LiDAR dataset. Hemisphere S631 survey grade GPS was utilized to collect data that was below the 2017 pool elevation and in wadable reaches. GPS data was collected on 5 February 2024. Cross sections are plotted in a downstream orientation with river left being on the left the plot.

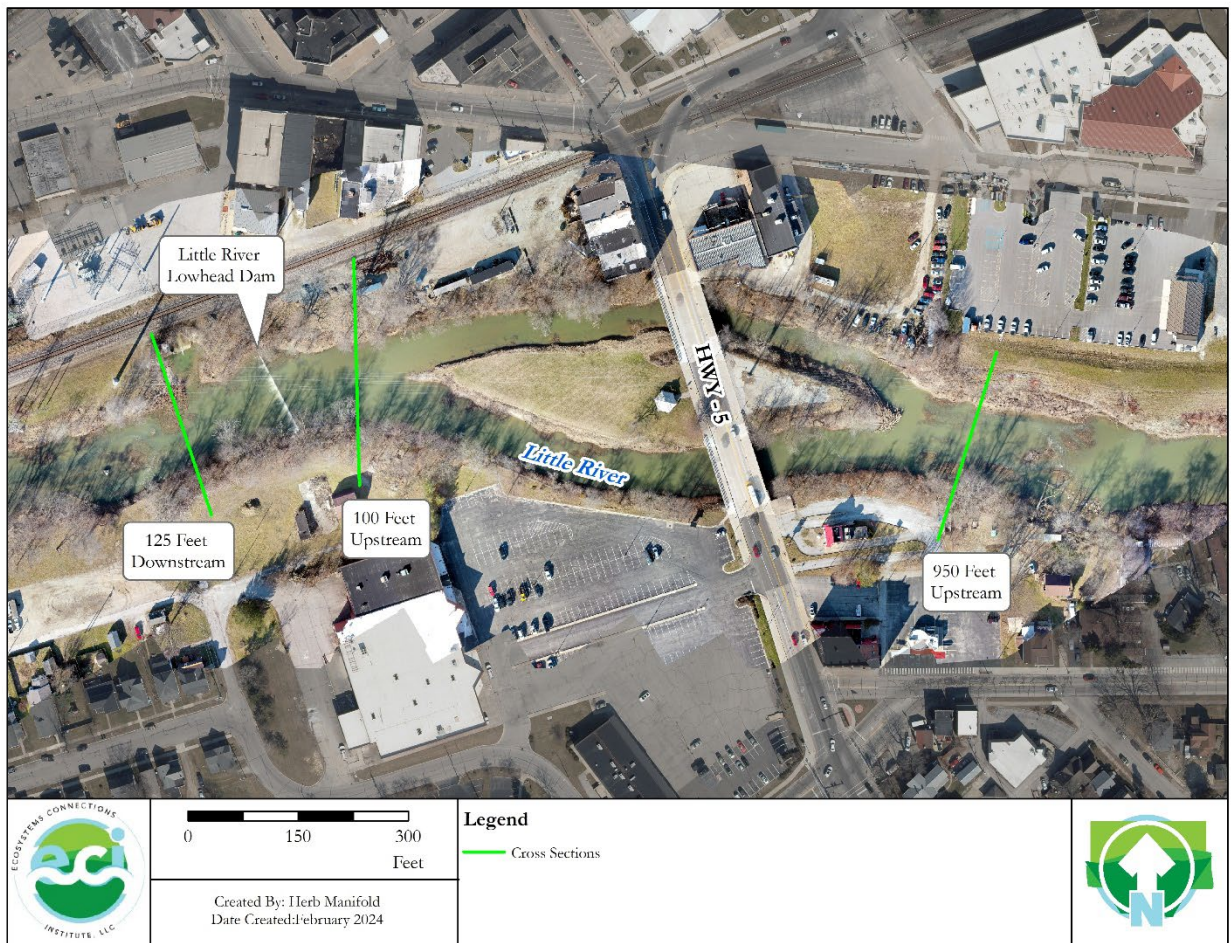


Figure 2. Location of cross sections collected at Little River dam. In channel data was collected on 5 February 2024. Above channel data collected as part of the statewide LiDAR initiative in 2017.

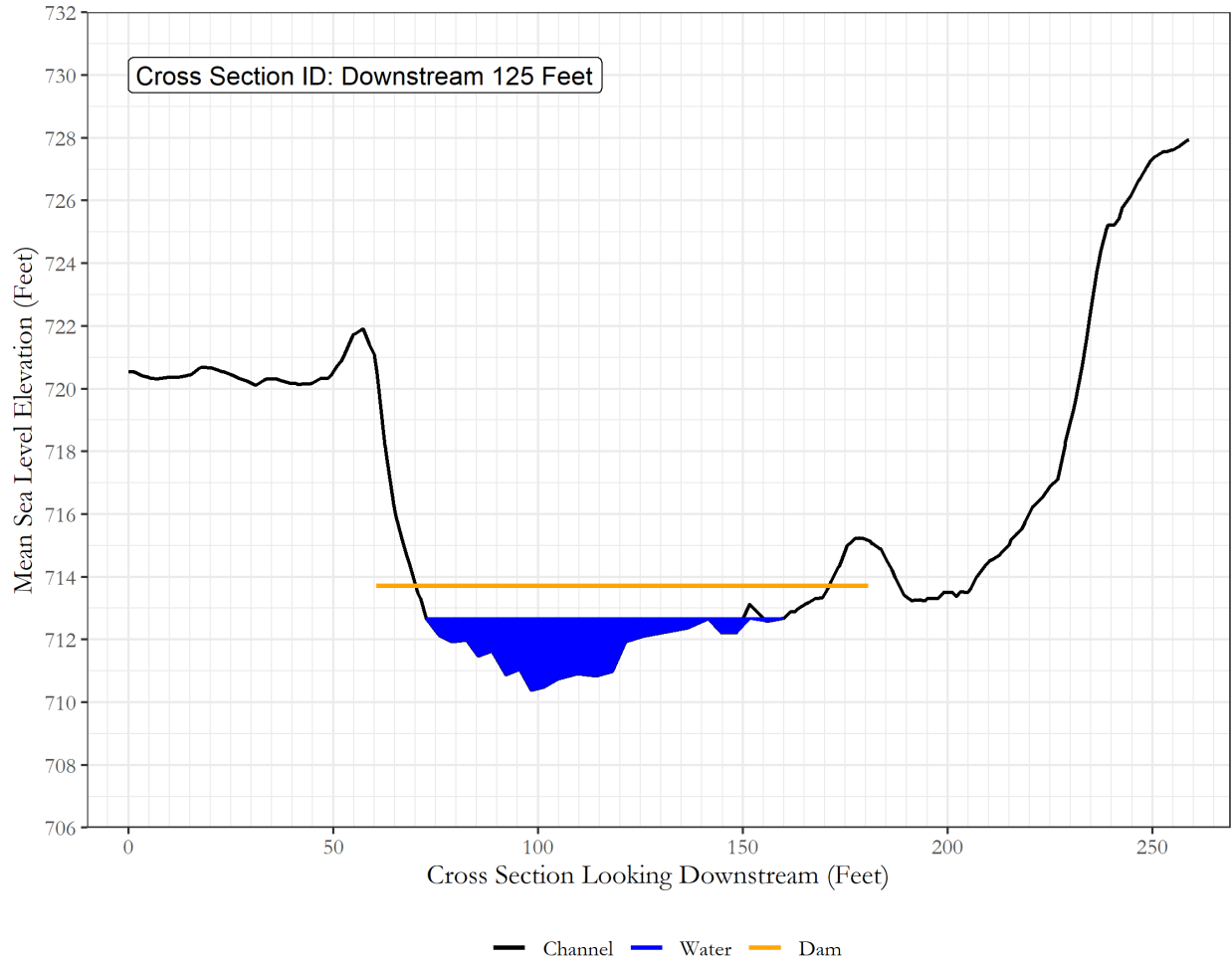


Figure 3. Cross Sectional collected 125 feet downstream of Little River dam. Downstream orientation with river-left being on left side of the plot. In channel and water surface data was collected on 5 February 2024. Above channel data collected as part of the statewide LiDAR initiative in 2017. Orange line represents the top elevation of the Little River Dam.

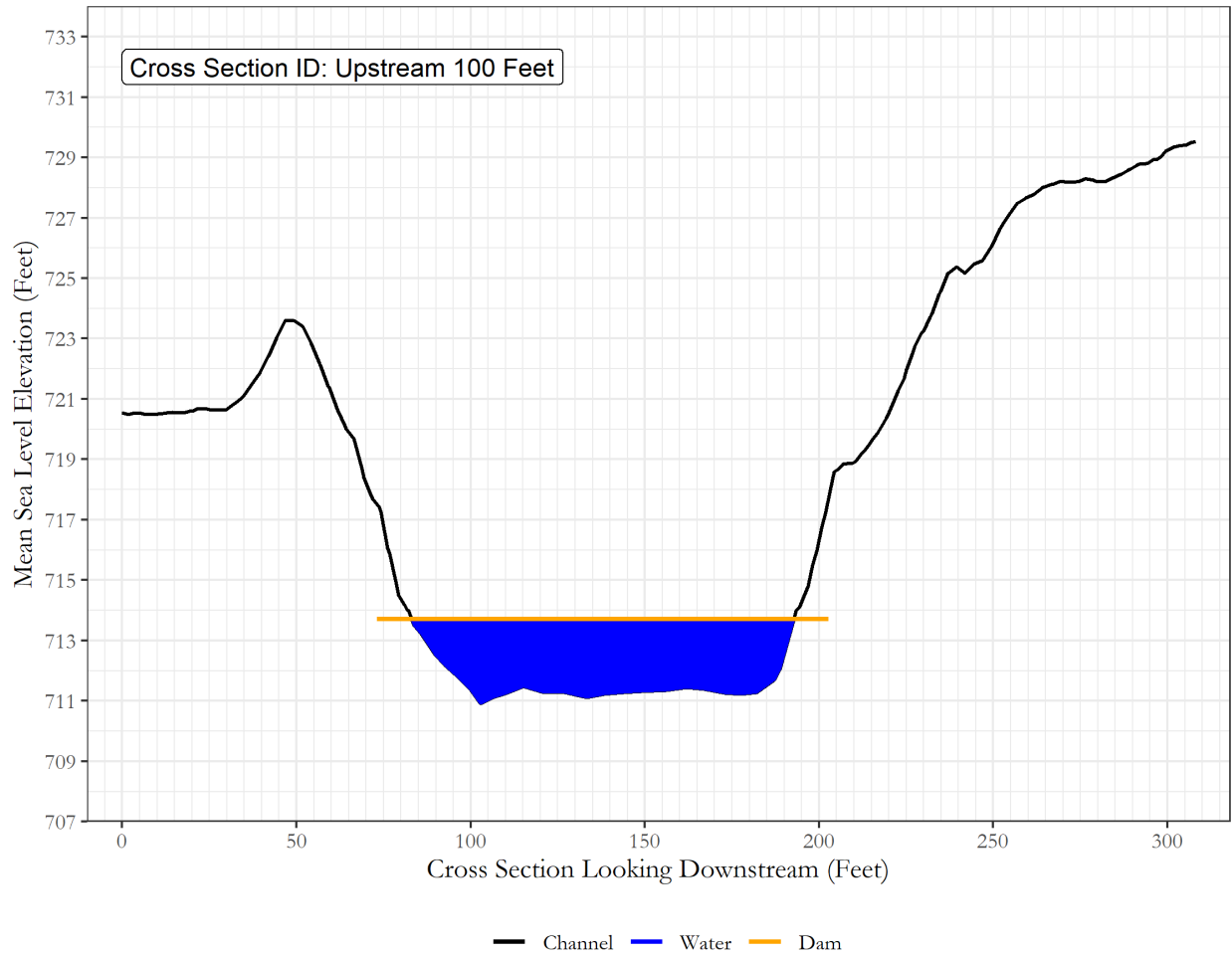


Figure 4. Cross Sectional collected 100 feet upstream of Little River dam. Downstream orientation with river-left being on left side of the plot. In channel and water surface data was collected on 5 February 2024. Above channel data collected as part of the statewide LiDAR initiative in 2017. Orange line represents the top elevation of the Little River Dam.

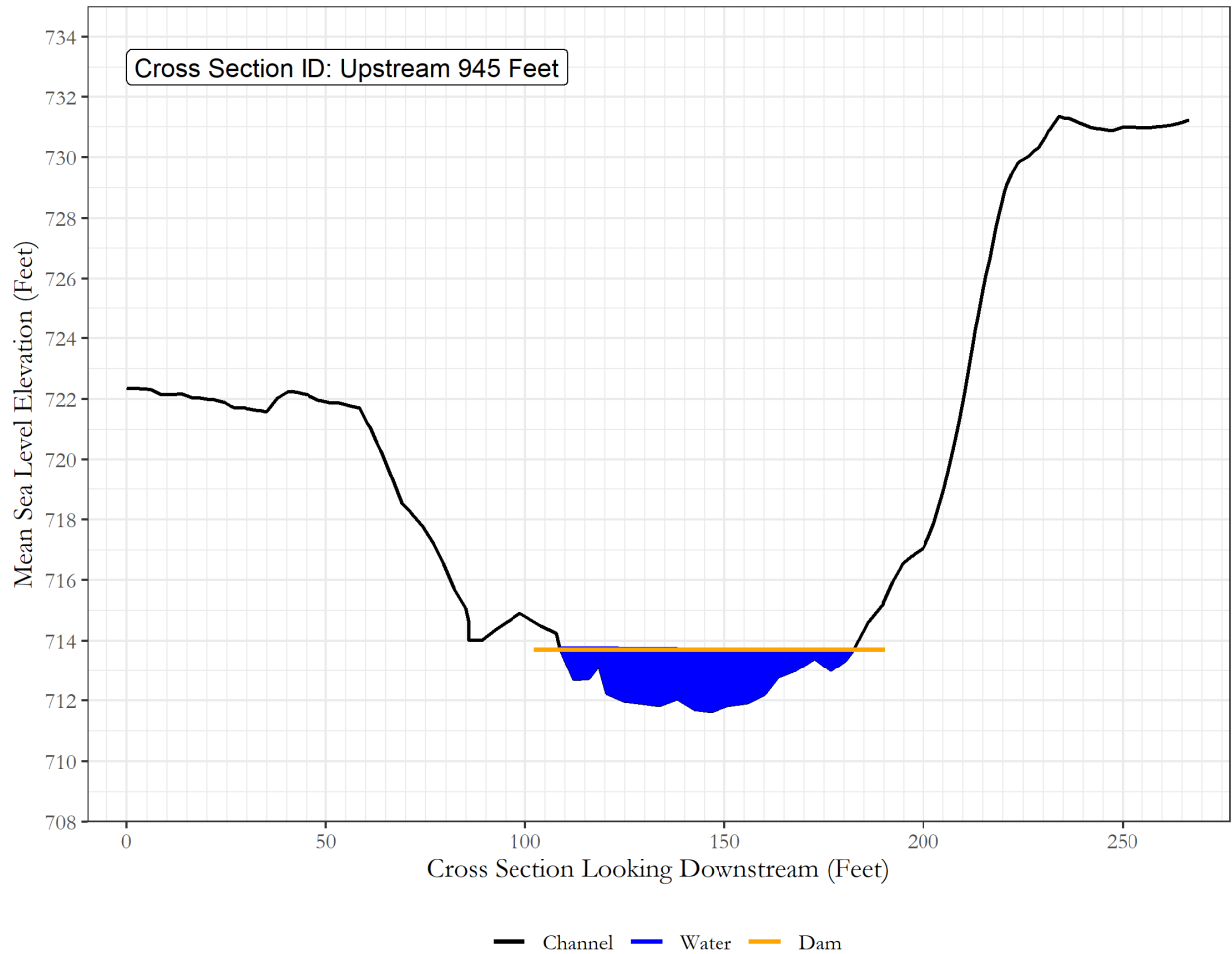


Figure 5. Cross Sectional collected 945 feet upstream of Little River dam. Downstream orientation with river-left being on left side of the plot. In channel and water surface data was collected on 5 February 2024. Above channel data collected as part of the statewide LiDAR initiative in 2017. Orange line represents the top elevation of the Little River Dam.

Removal Plan:

Removal of the Huntington dam will require a pathway from Herman Street to the dam. This is a short distance over mostly mowed lawn. The pathway from the road to the dam will require no additional resources to build a pathway (white sections of pathway). Riprap will be needed downstream of the dam to provide a footing for the equipment removing the dam. A maximum of 70 cubic yards of riprap will be utilized upstream of the dam. Sections on either side of the dam may remain and be preserved in accordance with SHPO permitting. Otherwise, all sections of the dam will be removed and recycled in an approved facility. All dam material and riprap will be removed from the project site upon completion of the dam removal. A staged water release will be completed to gradually lower the pool elevation. The pool is only 350-feet long and relatively shallow.



Figure 6. Equipment path needed to access Huntington dam. This pathway is already clear large woody vegetation as it is a mowed lawn. White sections of pathway will require no additional material for access. Yellow sections of pathway will be used as a footing for the removal equipment, A maximum of 70 cubic yards of riprap will be utilized. All material will be removed when the project is complete.



Figure7. Drone picture from the project site looking downstream. Photo taken 5 February 2024.
Huntington dam, Huntington Indiana



Figure8. Drone picture from the project site looking upstream. Photo taken 5 February 2024.
Huntington dam, Huntington Indiana



Figure 9. Drone picture from downstream the project site looking upstream. Photo taken 5 February 2024. Huntington dam, Huntington Indiana. The dam is approximately 120-feet long and 4-feet tall and 3-feet wide.



Figure 10. Drone picture from upstream the project site looking downstream. Photo taken 5 February 2024. Huntington dam, Huntington Indiana.

Stream sediment particle size composition and nutrients (Level 2 per IDEM)

Level 2 Analysis

1. Particle size composition (ASTM D422-Sieve)
2. Biological Oxygen Demand
3. Chemical Oxygen Demand
4. Nutrients
 - a. Total Phosphorus
 - b. Total Nitrogen
 - c. Total Kjeldahl Nitrogen, Ammonia as N
 - d. Total Potassium

IDEM Approved Sampling locations.

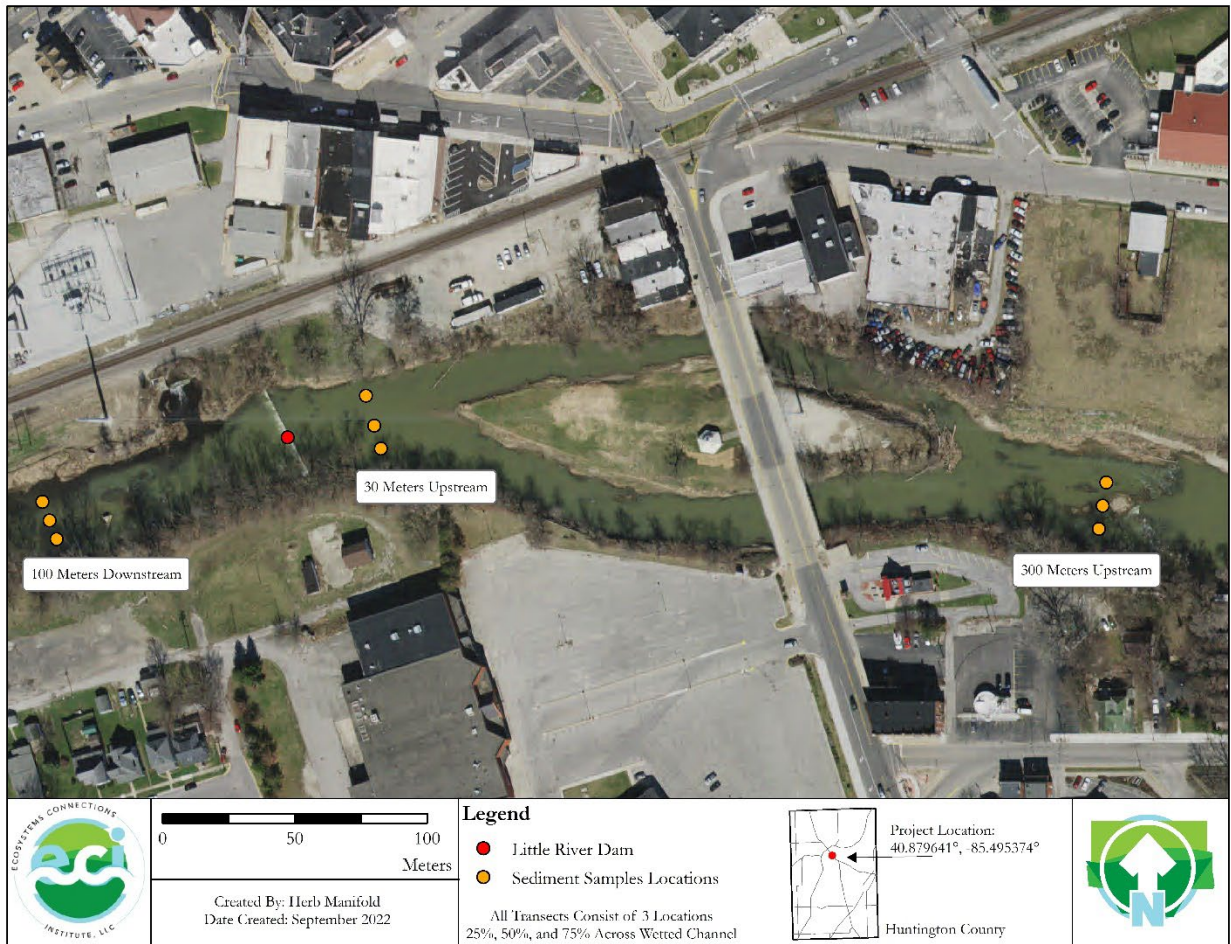
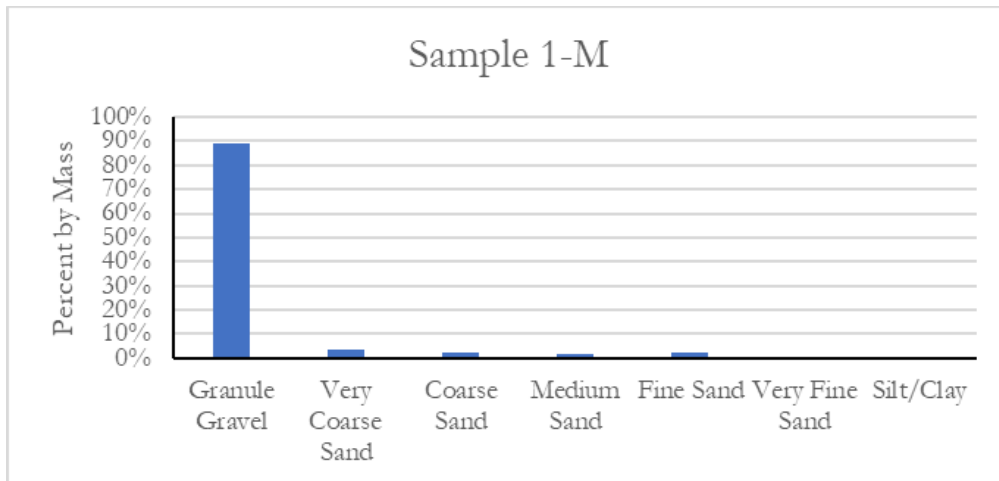
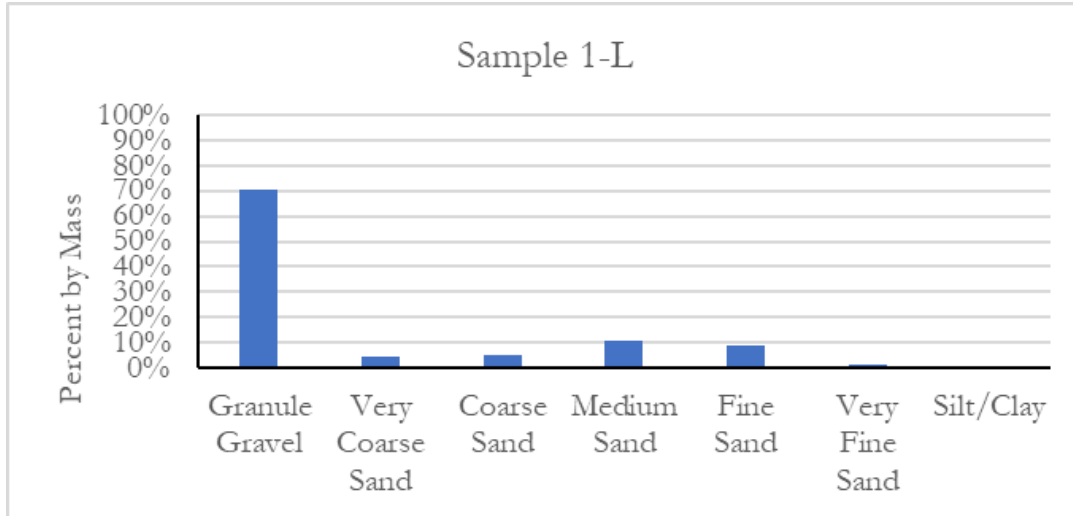
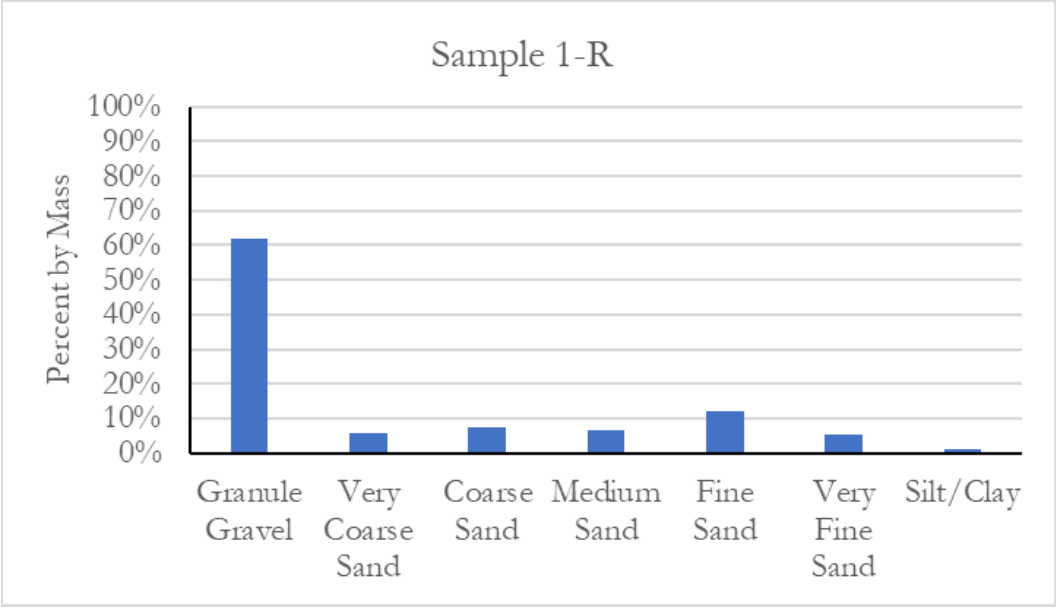


Figure 11. Nine sediment samples and six water samples were collected on 5 February 2024. Samples were shipped overnight to Microbac Laboratories, 250 West 84th Drive | Merrillville, IN 46410. Particle size composition was completed in the ECI laboratory. The Transects are numbered from downstream to upstream as 1-L, 1-M, 1-R | 2-L, 2-M, 2-R | 3-L, 3-M, 3-R. Letters represent Left, Middle, and Right looking downstream.

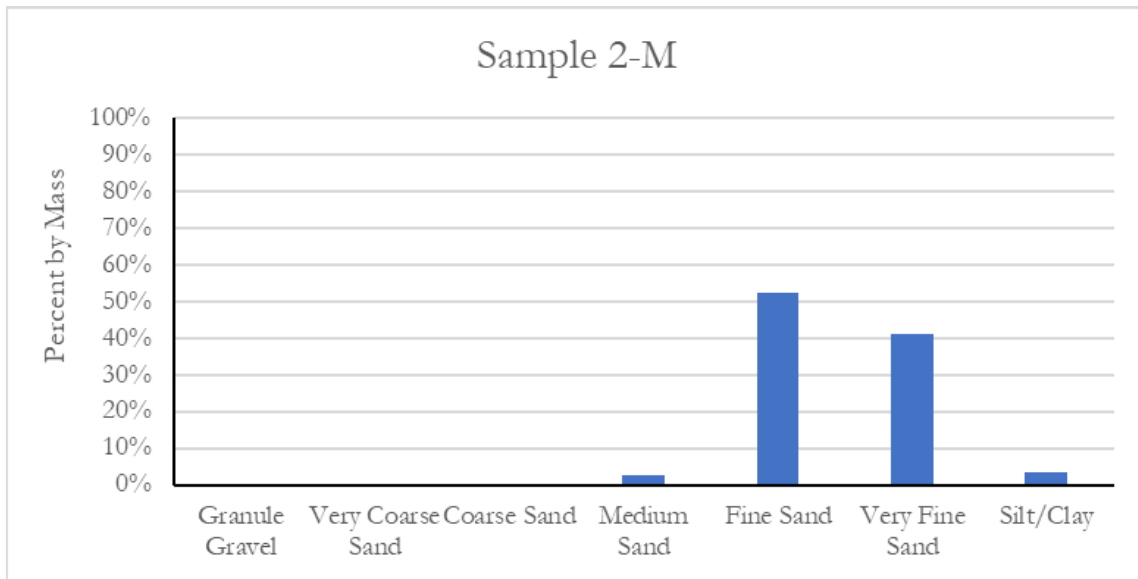
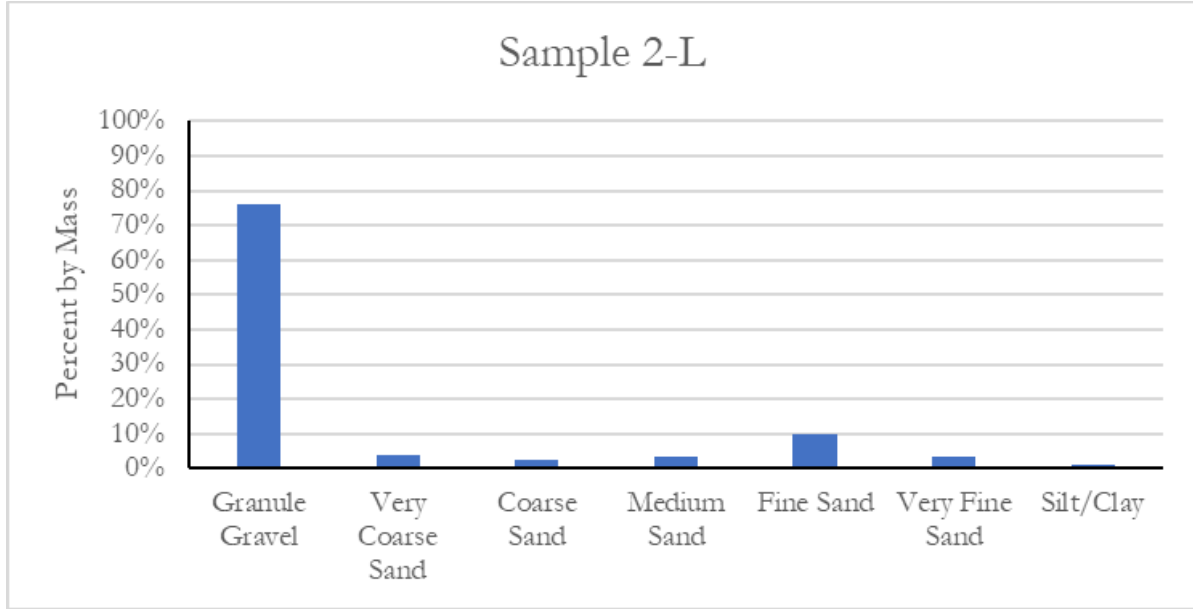
Results for Sediment Particle Size Composition

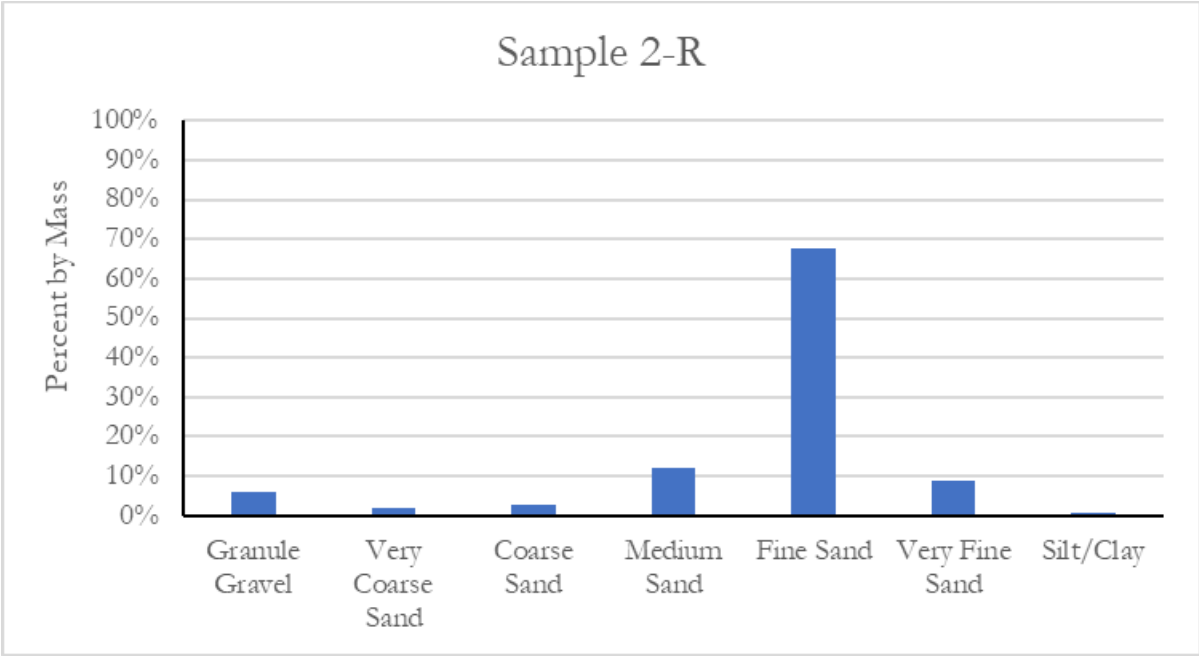
Transect 1 was collected 100-meters below the dam.



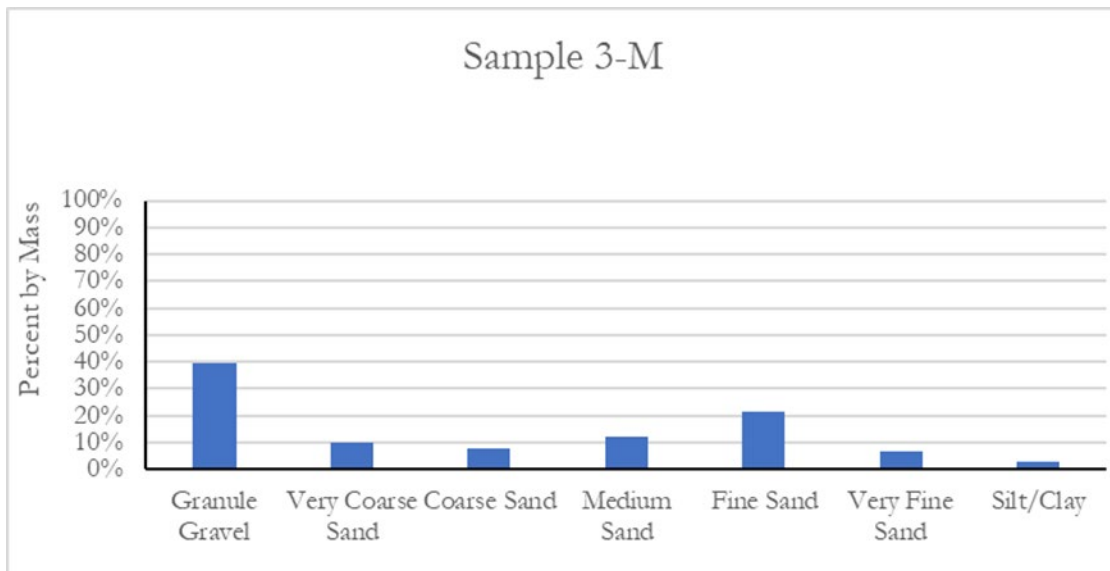
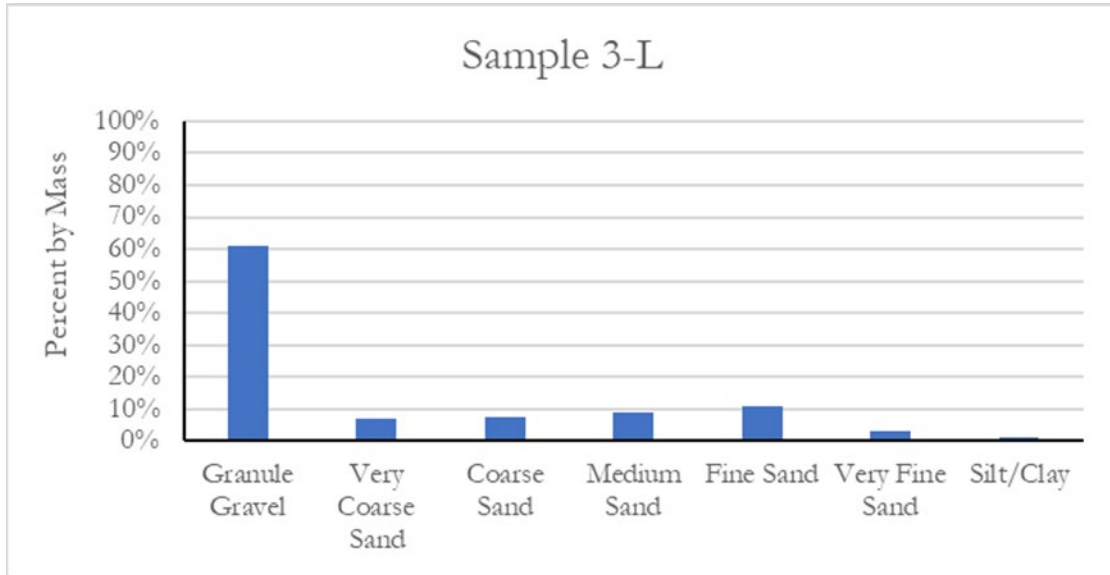


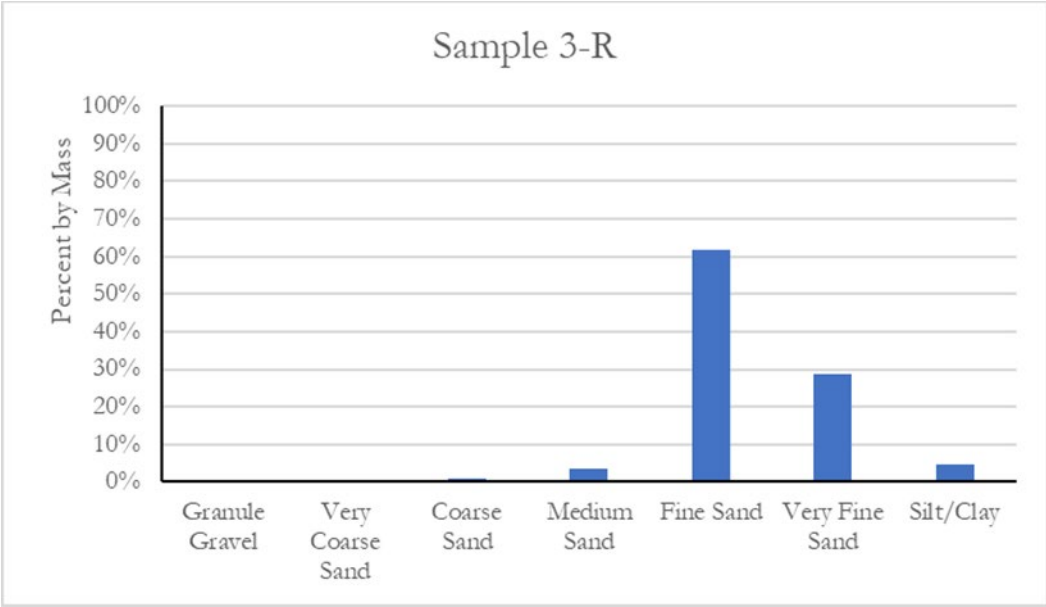
Transect 2 was collected 30-meters above the dam.





Transect 3 was collected 300-meters above the dam.





Results for sediment chemistry

Table 1. Ammonia as N, BOD, COD for the Little River above and below the low head dam. Sample 1-M was collected 100-meters downstream of the dam, sample 2-M was collected 30-meters above the dam, and 3-M was collected 300-meters above the dam.

	Sample ID	Little River 1-M	Little River 2 -M	Little River 3-M
	Date Collected	2/6/2024	2/6/2024	2/6/2024
Analyte	Units			
Ammonia as N	mg/Kg dry			
Biochemical Oxygen Demand (BOD5)	mg/L	< 2	< 2	< 2
Chemical Oxygen Demand (COD)	mg/L	< 9.7	< 9.7	< 9.7





Ecosystems Connections Institute, LLC

9130 North 600 East Denver, IN 46226 260.901.0561 ecosystemsconnections.com

Table 2. Level 2 results for above and below the low head dam in the Little River in Huntington, IN. Transect 1 was collected 100-meters downstream of the dam, Transect 2 was collected 30-meters above the dam, and Transect 3 was collected 300-meters above the dam.

	Site	1L	1M	1R	2L	2M	2R	3L	3M	3R
Nitrate & Nitrite as N	mg/Kg dry	4.5	19	4.4	5.6	8.6	14	4.6	12	9.9
Percent Solids	% (by wt.)	82	86	82	79	69	79	79	72	77
Total Phosphorus as P	mg/Kg dry	26.7	21.5	17	33	22.8	46.2	31.2	21.7	22.6
Potassium	mg/kg dry	330	710	450	720	1500	340	290	730	260
Total Kjeldahl Nitrogen (TKN)	mg/Kg dry	14000	46	69	< 15	390	180	230	330	140
Total Nitrogen	mg/Kg dry	14000	65	69	< 0.3	400	190	230	340	150