



City of Bloomington

Environmental Commission

The mission of the Environmental Commission is to promote the stewardship and preservation of the city's environment and natural resources by seeking out and responding to emerging issues, addressing them with sound long-term policy recommendations, and increasing local environmental awareness and engagement.

ENVIRONMENTAL COMMISSION NOTICE and REGULAR SESSION AGENDA

December 18, 2025, 6:00 PM
Hooker Meeting Room #245
City Hall, 401 N Morton Street Bloomington, IN 47404
Hybrid Meeting

Join Zoom Meeting here:

<https://bloomington.zoom.us/j/8657231124?pwd=mPqboSiD0AhVwKSgkuW2aO7NHixihO.1&omn=81563021562>

Meeting ID: 865 723 1124

Passcode: COBPT

or on Community Access Television Service (CATS): <https://catstv.net/government.php>.

Auxiliary aids are available upon request with adequate notice.

Environmental Commission Members

Carrie Albright, Chair

Appointed by Mayor

Term: February 1, 2024 to January 31, 2026

Heidi Brown

Appointed by Mayor

Term: February 1, 2025 to January 31, 2027

Nadia Cain

Appointed by Common Council

Term: February 1, 2024 to January 31, 2026

Matt Caldie, Vice Chair & Treasurer

Appointed by Mayor

Term: February 1, 2025 to January 31, 2027

Norman Crampton

Appointed by Mayor

Term: February 1, 2025 to January 31, 2027

Adam Fudickar

Appointed by Common Council

Term: February 1, 2025 to January 31, 2027

Shannon Gayk

Appointed by Common Council

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Adam Martinez, Secretary

Appointed by Common Council

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Mitchell Owens

Appointed by Common Council

Term: February 1, 2024 to January 31, 2026

David Parkhurst

Appointed by Mayor

Term: February 1, 2024 to January 31, 2026

Vacancies: 2

1. Call to order and quorum confirmation:

2. Introductions and Roll Call

	<u>In Person</u>	<u>Absent</u>	<u>Zoom</u>
Carrie Albright			
Heidi Brown			
Nadia Cain			
Matt Caldie			
Norman Crampton			
Adam Fudickar			
Shannon Gayk			
Adam Martinez			
Mitchell Owens			
David Parkhurst			
City Liaison, Rachael Johnson			

3. Approval of November 20, 2025 minutes*

	<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Carrie Albright			
Heidi Brown			
Nadia Cain			
Matt Caldie			
Norman Crampton			
Adam Fudickar			
Shannon Gayk			
Adam Martinez			
Mitchell Owens			
David Parkhurst			

4. New Business

- a. Hoosier River Watch Presentation – presented by Dylan Allison
- b. Commission Residency Requirement Discussion (Carrie Albright, Councilmember Matt Flaherty)

5. Old Business

- a. Working group updates
 - i. Biodiversity
 - ii. Eco-Heroes
 - iii. ECPC
 - iv. Light Pollution
 - v. Outreach & Education

- vi. Special Projects
- vii. Water Quality

6. Public comment

Limit 5 minutes per person, 20 minutes total

7. Staff Update

- a. 2026 Schedule
- b. Attendance Requirements

8. Reports from:

- a. Tree Commission (TC)
- b. Environmental Resource Advisory Council (ERAC)
- c. Friends of Lake Monroe (FOLM)
- d. Bloomington Commission on Sustainability (BCOS)
- e. Monroe County – Identify and Reduce Invasive Species (MC-IRIS)
- f. Clean Community Program

9. Commissioner announcements

- a. Lawn Mowing “Management” Public Engagement (Norm)

10. Upcoming Meeting

- a. January 15, 2026, 6:00 pm, Hooker Room, Zoom, and CATS

11. Adjournment

** Item to be voted on*

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<https://bloomington.zoom.us/j/8657231124?>

[pwd=mPqboSiD0AhVwKSgkuW2aO7NHixihO.1&omn=81563021562](https://bloomington.zoom.us/j/8657231124?pwd=mPqboSiD0AhVwKSgkuW2aO7NHixihO.1&omn=81563021562)

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David Parkhurst

Appointed by Mayor

Term: February 1, 2024 to January 31, 2026

Vacancies: 1

1. Call to order and quorum confirmation: 6:06 PM

2. Introductions and Roll Call

	<u>In Person</u>	<u>Absent</u>	<u>Zoom</u>
Carrie Albright	X		
Heidi Brown	X		
Nadia Cain	X		
Matt Caldie	X		
Kasie Chappell		X	
Norman Crampton		X	
Adam Fudickar	X		
Shannon Gayk	X		
Adam Martinez	X		
Mitchell Owens	X		
David Parkhurst	X		
City Liaison, Rachael Johnson	X		

3. Approval of October 16, 2025 minutes*

	<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Carrie Albright	X		
Heidi Brown	X		
Nadia Cain	X		
Matt Caldie	X		
Kasie Chappell			
Norman Crampton			
Adam Fudickar	X		
Shannon Gayk	X		
Adam Martinez	X		
Mitchell Owens	X		
David Parkhurst	X		

4. Public comment

Limit 5 minutes per person, 20 minutes total

Karl Gaisser is interested in filling the vacancy and wanted to observe the meeting.

5. New Business

a. Name Badges

David Hittle mentioned that commissioners will not be issued name badges and requests that any existing named badges be turned in.

b. Handbook Revision* – Quorums for Working Groups and Full Commission (Rachael)

Our “50%” language in our quorum determination would require us to round up. Rachael is proposing that we explicitly mentioned a de minimis of 6.

c. Sustainable Energy Utility capstone project (Matt & Heidi)

Heidi wrote some recommendations to send to BCOS regarding the Sustainable Energy Utility capstone project that was presented in the October meeting.

d. Clean Air Act: Examining the Socioeconomic and Political Drivers of Enforcement (Nadia)

Nadia presented her thesis about enforcement of the Clean Air Act.

e. Annual Planning Meeting (Carrie)

Carrie started by recapping our 3-5 year priorities that were presenting to the common council earlier in the year.

Dark Sky certification is a potential goal to move towards.

Heidi mentioned spreading information to the public about water quality (probably falls under water quality working group).

Nadia suggested giving presentations to schools or classes.

The group discussed ways to encourage the public to bring ideas and suggestions to the commission

3-5 year priorities:

- Continue to review and potentially improve the process for on-boarding new commissioners
- Create a water quality report
- Create a stream inventory
- Achieve and retain relevant city certifications
- Look for ways to utilize funding

Potential 2026 goals:

- Move towards Dark Sky International certifications – light pollution
- In-school presentations – outreach
- Eco-Heroes – biodiversity
- Improve the public input process – outreach
- Spread awareness of the Habitat Connectivity Plan – biodiversity

- Conduct a riparian buffer inventory of certain streams in Bloomington – water quality
- Consider requesting UDO changes – any/all
- General outreach – outreach
- Update/overhaul literature – outreach
- Continue ECPC – ECPC
- Update website materials – outreach
- Social media / outreach / education working group – outreach

Working groups and members (informal leaders/wranglers underlined, potential members in parenthesis):

- ECPC
 - Rachael, Adam M., Matt, Mitchell, David, Carrie, (Norm), (Nadia)
- Water quality
 - Mitchell, David, Heidi, Kasie, (Carrie)
- Light pollution
 - Adam M., Matt, Adam F., (Nadia)
- Biodiversity
 - Shannon, Carrie, Adam F., David, Matt
- Eco-heroes
 - Carrie, Matt, Adam M., Shannon, (Nadia), Heidi
- Special projects
 - Carrie, Mitchell, Adam F., (Matt)
- Outreach/education
 - Adam F., Matt, Shannon, (Nadia), Carrie, Heidi

6. Old Business

a. Working group updates

i. Biodiversity

Bee City groups are beginning to meet.

We've ordered stickers to give out to those who add their data to the habitat connectivity map.

ii. Eco-Heroes

Carrie proposed some ideas.

Theme: Our Nature at Night

We would add additional language about what happens in nature at night.

Also providing examples of what participants could submit.

The city's Earth Day event is April 18th. Winners should be informed by April 10th. Carrie suggested the cutoff date for submissions to be the 7th.

Information will be sent to educators the week of December 8th.

The week of January 12th we will send additional materials. Flier, city website, etc will also be sent around this time.

We will also solicit donations at the same time.

March 17th is a potential date to begin accepting submissions.

iii. ECPC

1. Draft 2026 Schedule

The St Remy dam project was presented to the BZA. Additional remediation was requested.

There will be a meeting on Tuesday the 25th.

Rachael proposed a meeting schedule.

iv. Light Pollution

No update.

v. Special Projects

The commission has a new tablecloth.

vi. Water Quality

Ask Mitchell about preliminary water quality results.

7. Staff Update

There is a new system for applying to the commission. Many commissioners' terms are ending soon.

8. Reports from:

a. Tree Commission (TC)

David gave a recap of the recent meeting.

b. Environmental Resource Advisory Council (ERAC)

Did not meet.

c. Friends of Lake Monroe (FOLM)

David has no notes.

d. Bloomington Commission on Sustainability (BCOS)

The meeting was mostly administrative.

e. Monroe County – Identify and Reduce Invasive Species (MC-IRIS)

Rachael gave a recap of the recent meeting.

f. Clean Community Program

No commissioners attended the recent meeting. Bloomington is 1 project away from achieving Silver.

9. Commissioner announcements

- a. Lawn Mowing “Management” Public Engagement (Norm)
Norm was not present to make an announcement.

10. Upcoming Meeting

- a. December 18, 2025, 6:00 pm, Hooker Room, Zoom, and CATS

11. Adjournment

8:04 PM

** Item to be voted on*

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Hoosier Riverwatch: Water Quality in Indiana

Dylan Allison

HRW Coordinator

DJAlliso@IDEM.IN.gov / Riverwatch@IDEM.IN.gov

317-308-3392





What is Hoosier Riverwatch?

- Volunteer Stream Monitoring Program
 - Training workshops offered to adults
 - Volunteers contribute to database
 - Mission: Involve Hoosiers in becoming active stewards of Indiana's water resources





History of Riverwatch

- Early '90s - Hoosier Riverkeeper clean-ups (DNR)
- 1996 - Hoosier Riverwatch added monitoring, coordinator hired with CWA funds
- 2001 - First volunteer instructor training was held
- 2012 – Moves to Indiana Department of Environmental Management (OWQ)
- 2026 – Celebrates 30th Anniversary!





Foundational Knowledge

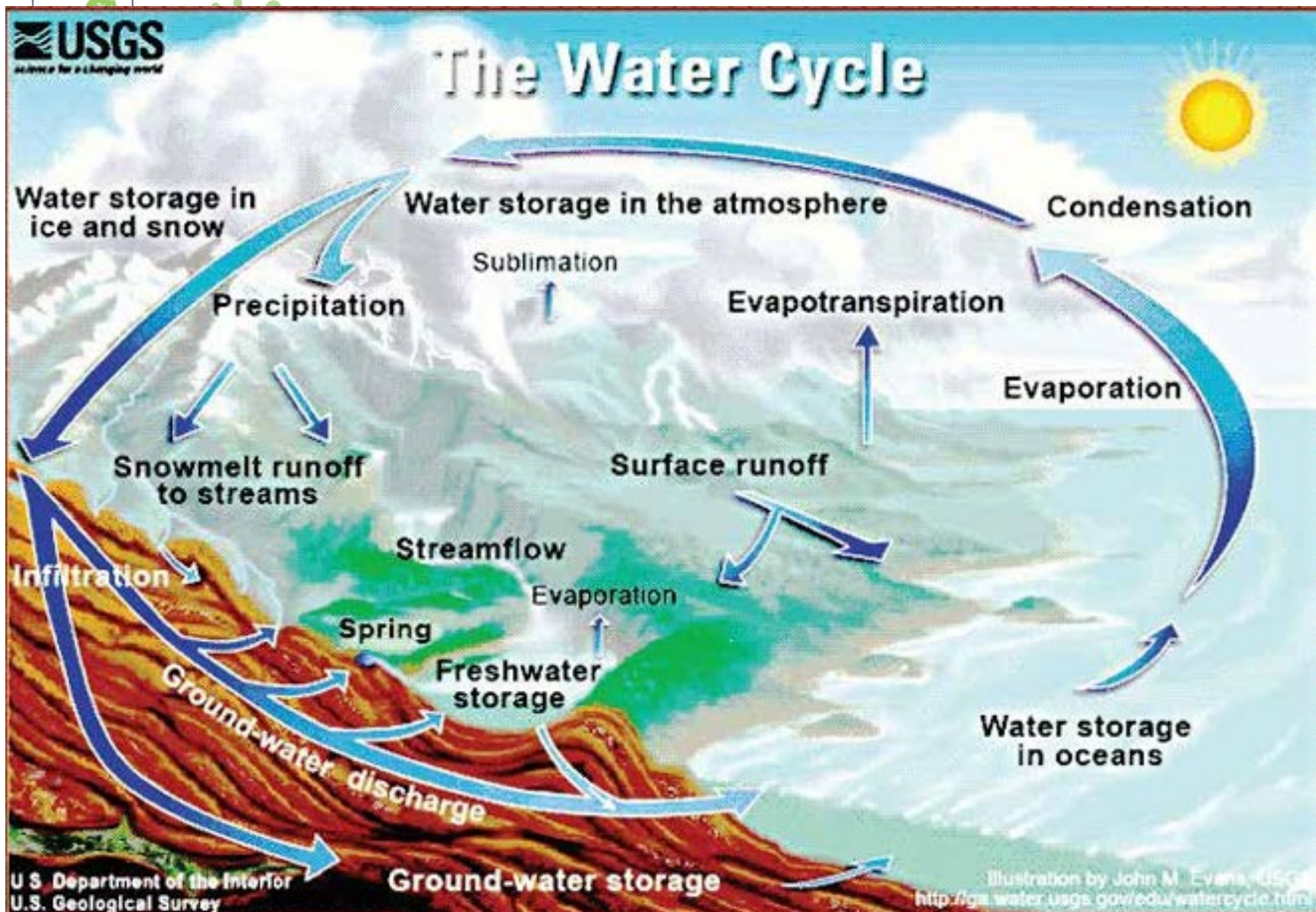




Hoosier National Forest

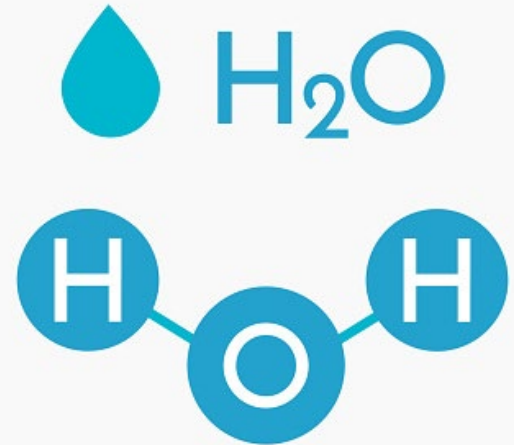


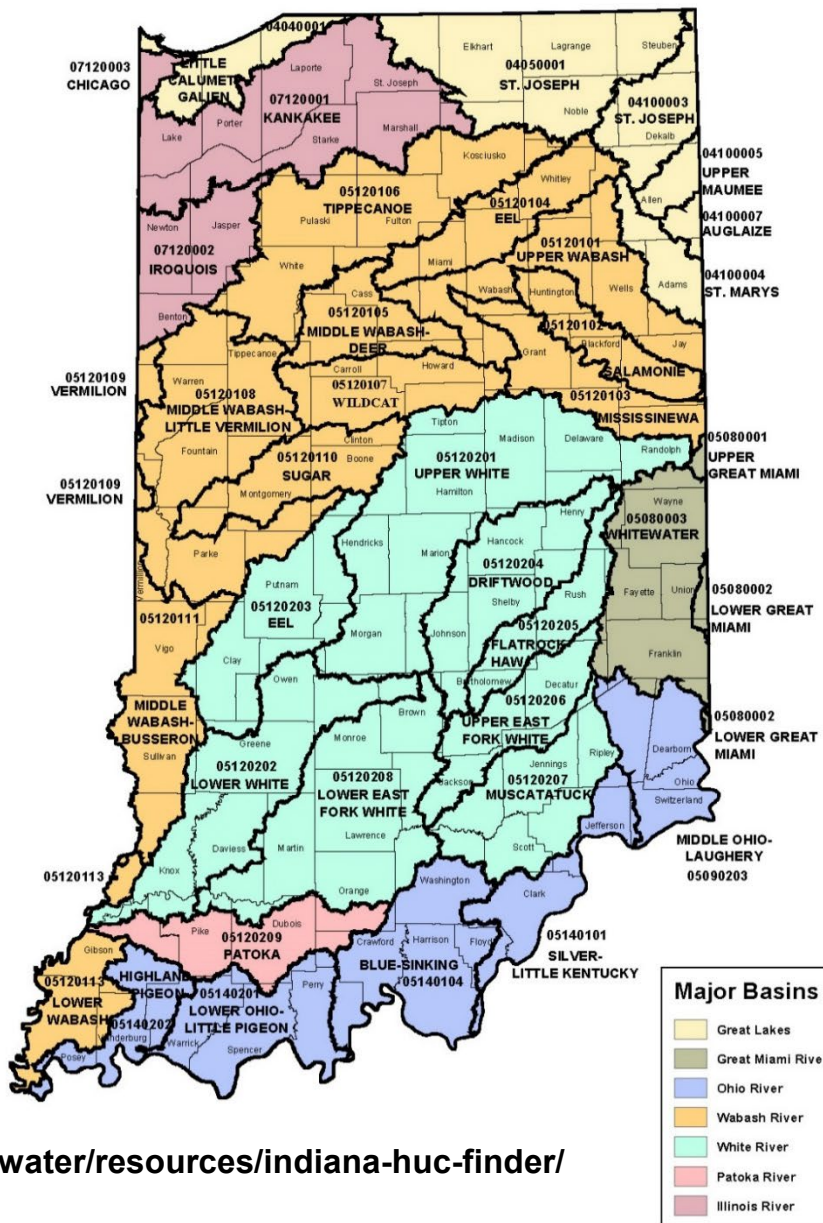
“More than half of the drinking water in the U.S. originates in forests...”





- Ocean- 3,000 years
- Atmosphere- 9 days
- Ice Caps- >1,000 years
(2.7 mil in Antarctica)
- Groundwater- 1-2 months
- Lakes- 1-100 years
- Rivers- 12-20 days





<https://www.in.gov/idem/cleanwater/resources/indiana-huc-finder/>



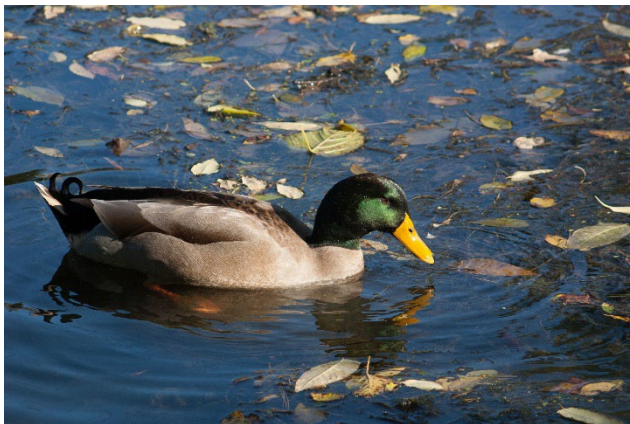


Hands-On Experience





Clean Water Important to All





We Still Have Work to Do



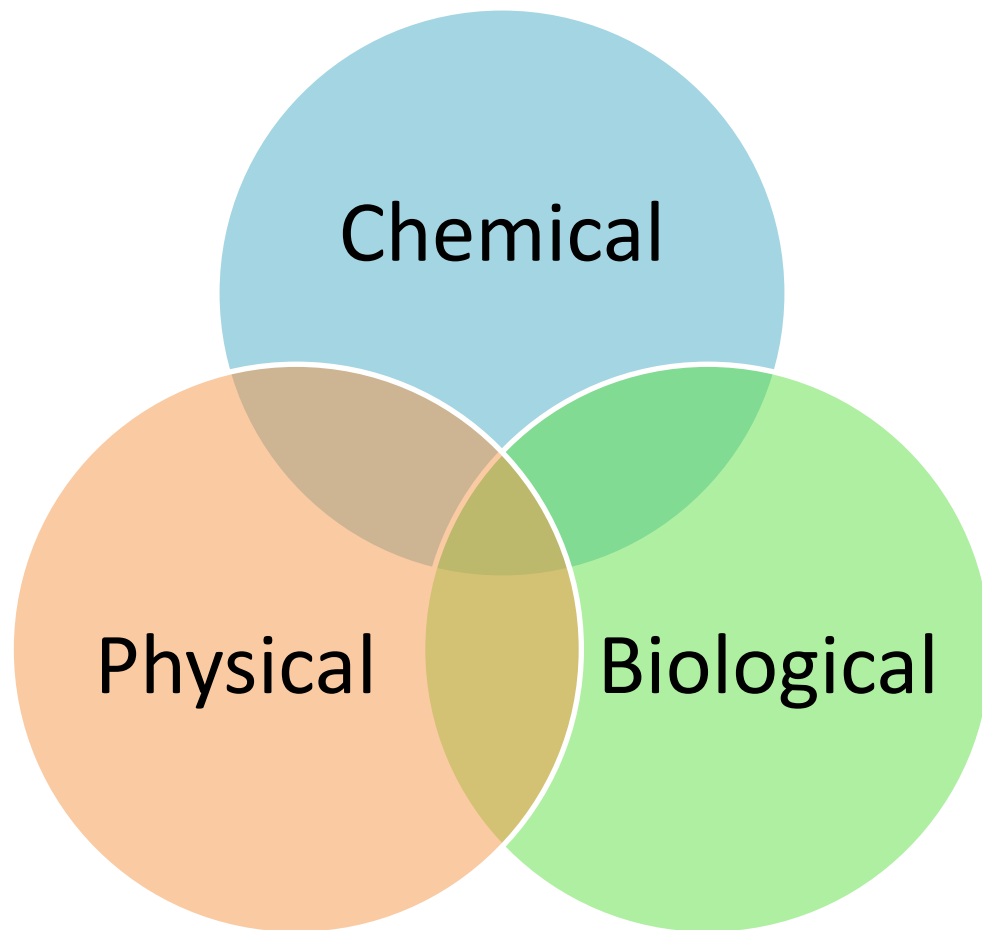


Why We Monitor

- Identify pollutants and sources
- Establish baseline data
- Document changes and trends
- Measure effectiveness of BMP



Measuring Water Quality

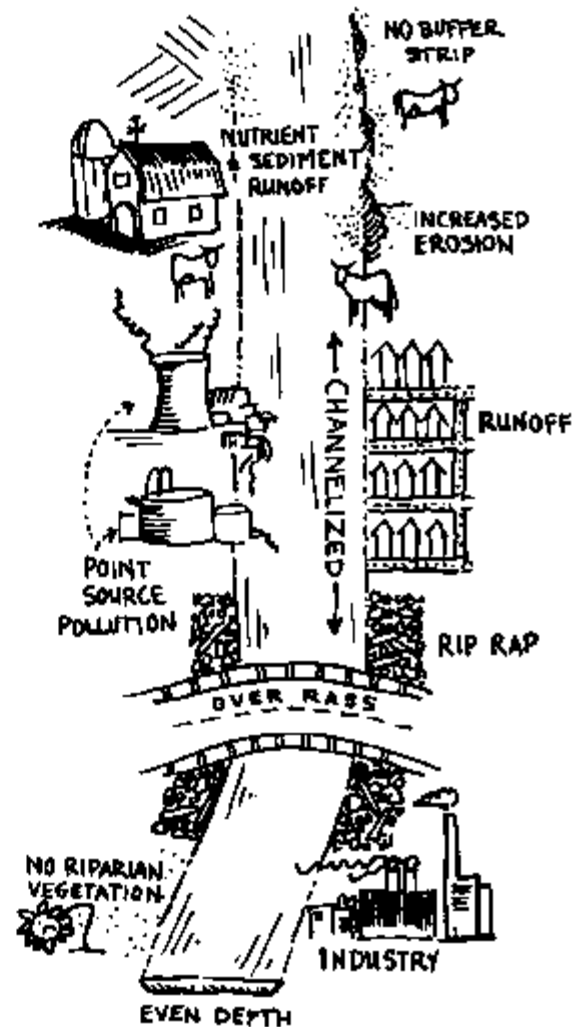
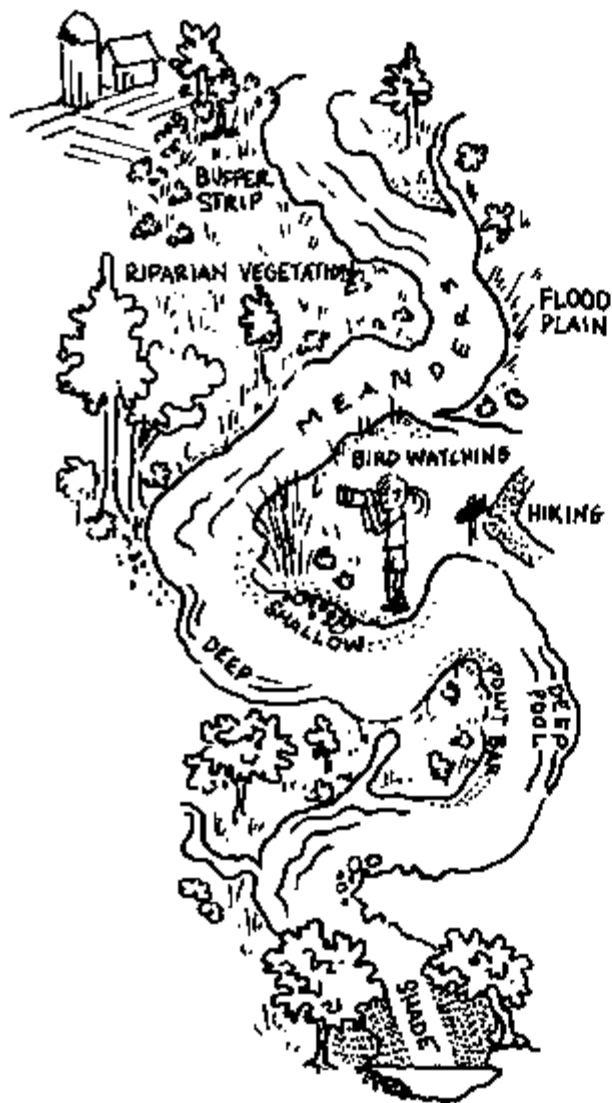


RIPARIAN HABITAT

HEALTHY

VS.

UNHEALTHY



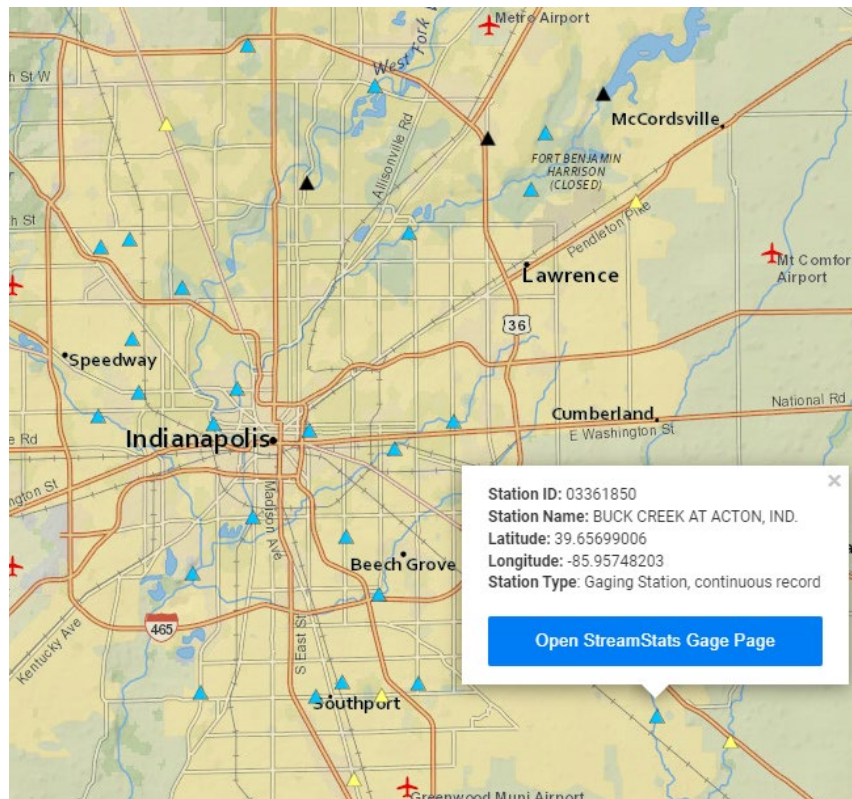


Citizens Qualitative Habitat Evaluation Index

- The following all contribute to habitat and combine to give a final score:
 - Substrate
 - Fish Cover (pg. 25 for examples)
 - Stream shape and human alteration
 - Riparian area and local land use
 - Depth/Velocity
 - Riffles/Runs



<https://streamstats.usgs.gov/ss/>

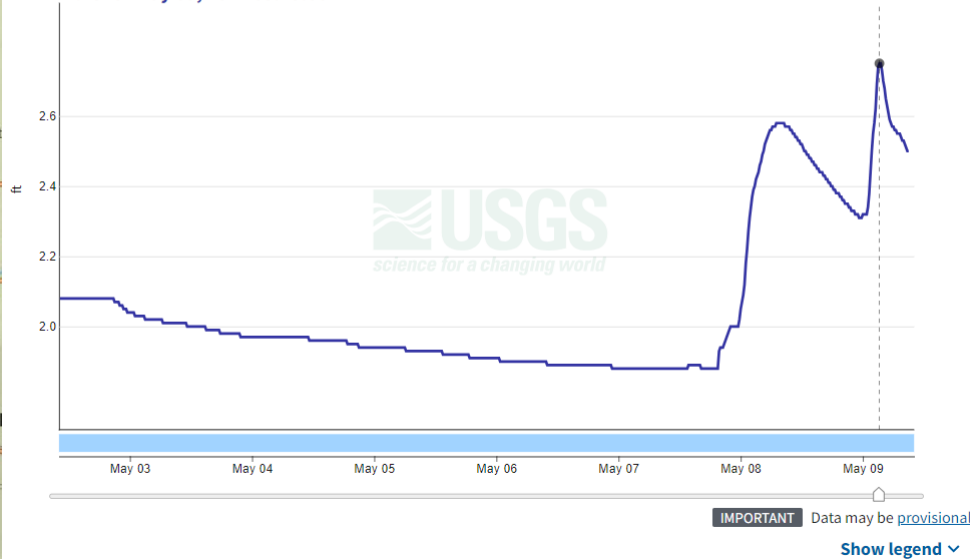


Buck Creek at Acton, IN - 03361850

May 2, 2024 - May 9, 2024

Gage height, feet

2.75 ft - May 09, 2024 03:15:00 AM EDT



Stream Flow (Discharge) Data Sheet

Date 10 / 04 / 09 Volunteer ID 1000

Site ID 1000

Stream Name Example Stream Name



Your phone
calculator can
help find
conversions

Solving the equation:

$$\text{FLOW (D)} = W \times Z \times V \times n$$

Where:

W = Average Width

Z = Average Depth

V = Average Velocity

n = Coefficient - 0.8 for gravel/rocky bottom streams
0.9 for muddy or bedrock bottom streams

D = Flow/Discharge

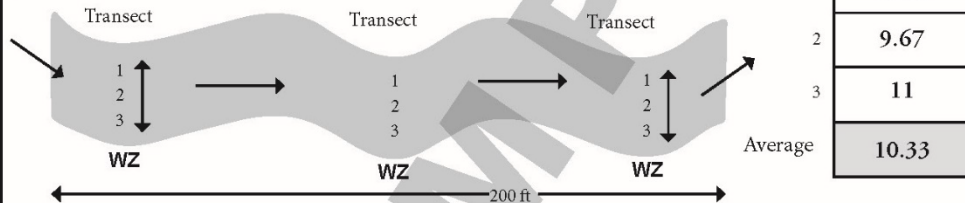
Convert measurements of feet + inches to 10ths of feet.

1 inch = 0.0833 feet

W

River Width

(one measurement at each transect)



Z

River Depth

(three measurement along each transect)

	Transect 1 (ft)	Transect 2 (ft)	Transect 3 (ft)	
1	0.83	1	1.54	
2	1.42	1.58	1.11	
3	1.08	0.58	1.33	
Average of Transects	1.11	1.05	1.33	Average of Averages
				1.16

V

Surface Velocity = Length/Time

(allow the object to attain velocity before timing)

Transect	Length (ft)	Time (seconds)	Velocity (ft/sec)
1	10	25	0.4
2	10	28	0.36
3	10	26	0.38
Average			0.38

D

Stream Flow or Discharge

10.33	1.16	0.38	0.8	=	3.64		
W	x	Z	x	V	x	n*	D (cfs)

*Coefficient (0.8 for gravel/rocky bottom streams, 0.9 for muddy or bedrock bottom streams)



Chemical Assessment

- Water Temperature
- Dissolved Oxygen
- pH
- Phosphates
- Nitrates and Nitrites
- Turbidity/Transparency
- *Biochemical Oxygen Demand 5-day*
- *E. coli and general coliforms*



Hoosier Riverwatch Chemical Monitoring Data Sheet

Date ____/____/____ Volunteer ID _____ Site ID _____
 Stream Name _____ Latitude _____ Longitude _____
 Time ____:____ AM / PM Time Sampling _____ hrs Air Temp: _____ °C
 Current Weather: ☐ Clear/Sunny ☐ Overcast ☐ Showers ☐ Rain (steady) ☐ Storm (heavy)
 Worst Weather (past 48 hours): ☐ Clear/Sunny ☐ Overcast ☐ Showers ☐ Rain (steady) ☐ Storm (heavy)

	Units	Sample #			Avg.	Q-Value x Weighting = Calculation	
		1	2	3		Factor (Q-value x Wt. Factor)	
Temperature							
Water Temp at Site	°C						
Water Temp 1 Mile Upstream							
Water Temp Change: Site Temp - Upstream Temp							
Dissolved Oxygen							
Dissolved Oxygen	mg/L						
DO% Saturation: <i>Determine from chart or table/equation</i>	%						
BOD							
Avg. Dissolved Oxygen: <i>(Calculated Above)</i>	mg/L						
Dissolved Oxygen after 5 days							
BOD Avg DO (original)-DO after 5 days							
pH							
pH							
Nutrients							
Orthophosphate	mg/L						
Total Phosphate <i>(boil in acid)</i>	mg/L						
Nitrate (NO3) <i>multiply by 4.4</i>	mg/L						
Nitrite (NO2) <i>multiply by 3.3</i>	mg/L						
Turbidity							
Transparency <i>(from tube)</i>	cm						
Turbidity <i>(convert from chart/table)</i>	NTU						
Bacteria							
E.Coli Bacteria	cfu/100 mL						
Fecal Coliforms							

WQI Ratings

Excellent	90 - 100%
Good	70 - 87%
Medium	50 - 69%
Bad	25 - 49%
Very Bad	0 - 24%

Add Weighting Factors for test completed.

TOTALS

Divide Total of Calculation Column by Total Weighting Factor Column

WQI

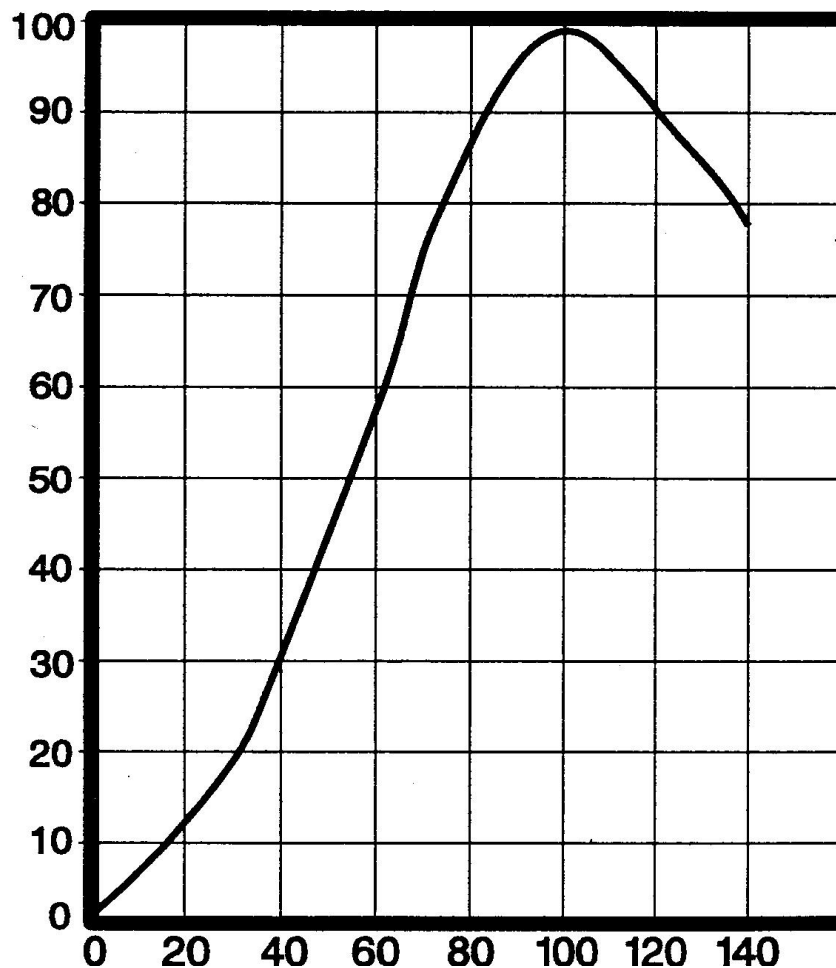
Add the calculation column.

Use Average DO value for BOD calculation.

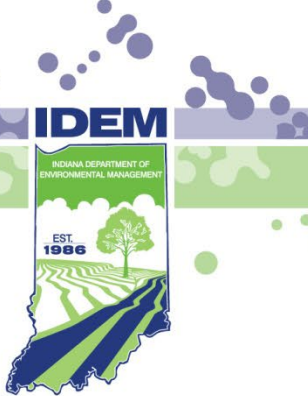
Remember to convert your reading from the tube to NTUs.



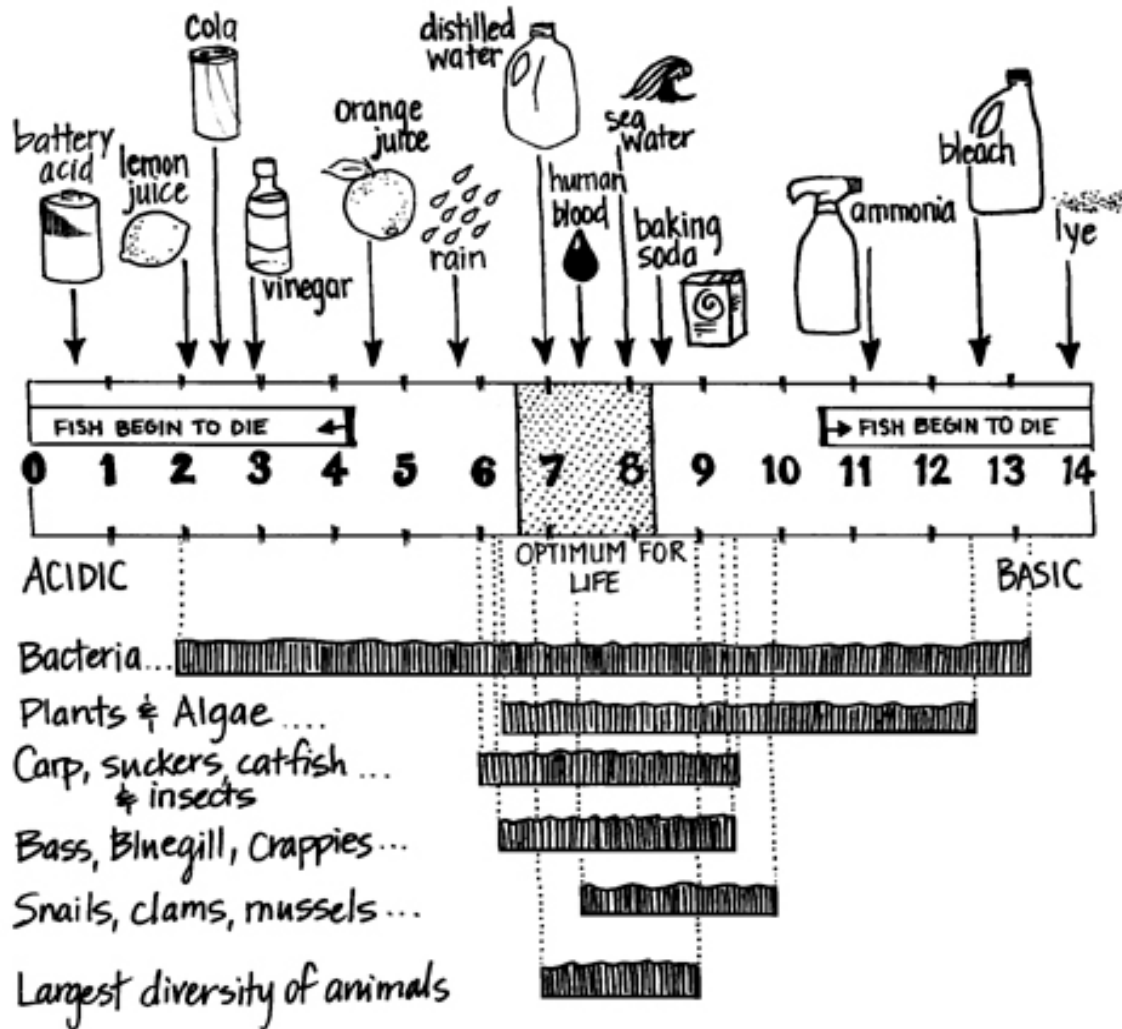
DO: Q-Value Graph & Table



DO (% Saturation)	Q-Value
0	0
10	8
20	13
30	20
40	30
50	43
60	56
70	77
80	88
85	92
90	95
95	97.5
100	99
105	98
110	95
120	90
130	85
140	78
>140	50

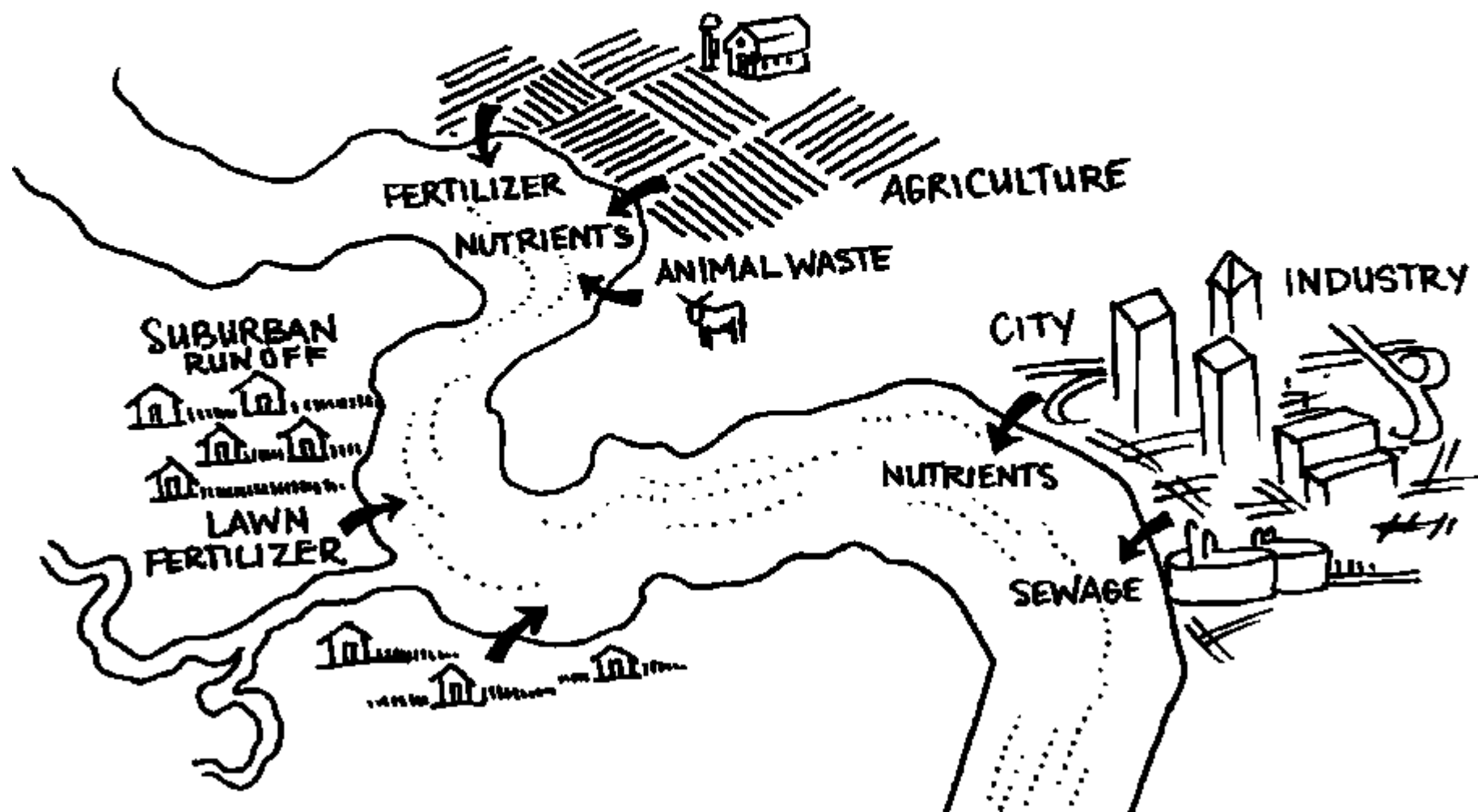


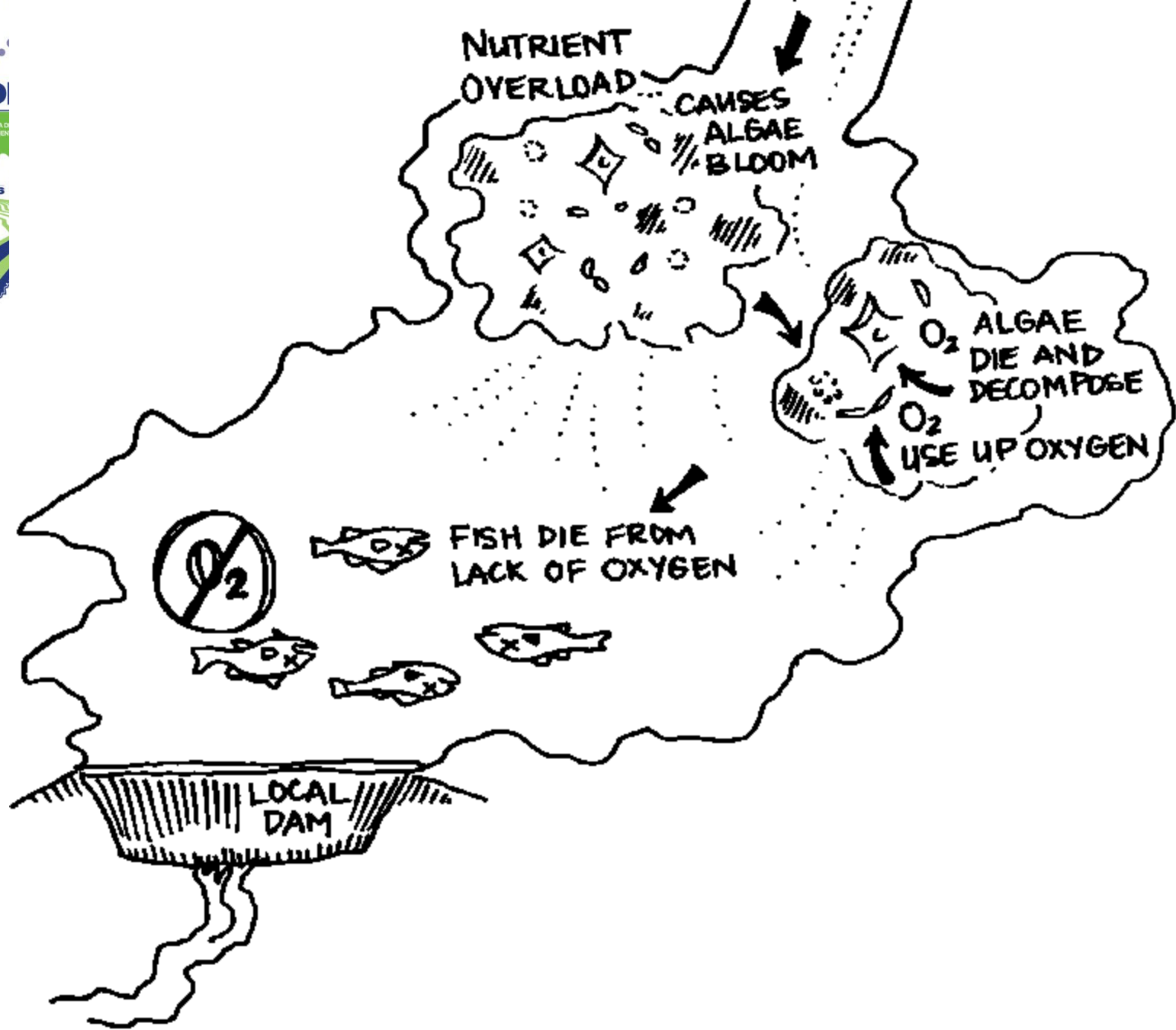
pH Scale of Common Substances and Aquatic Organisms



EUTROPHICATION

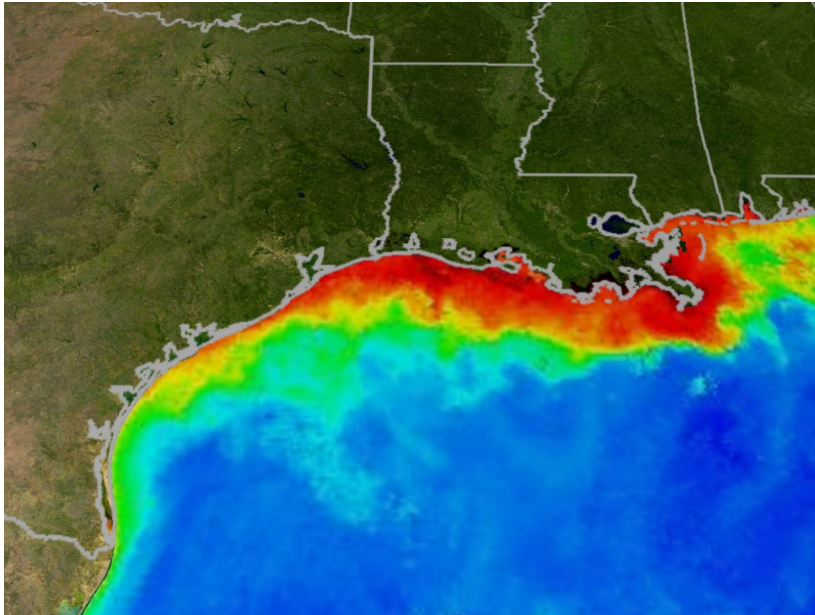
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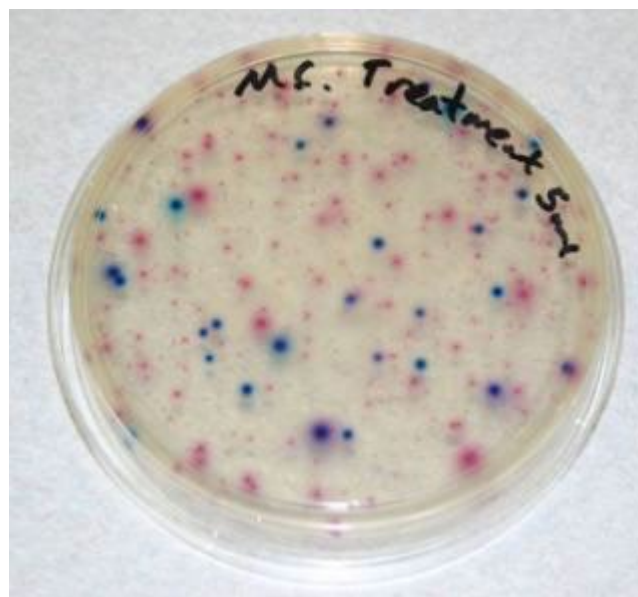
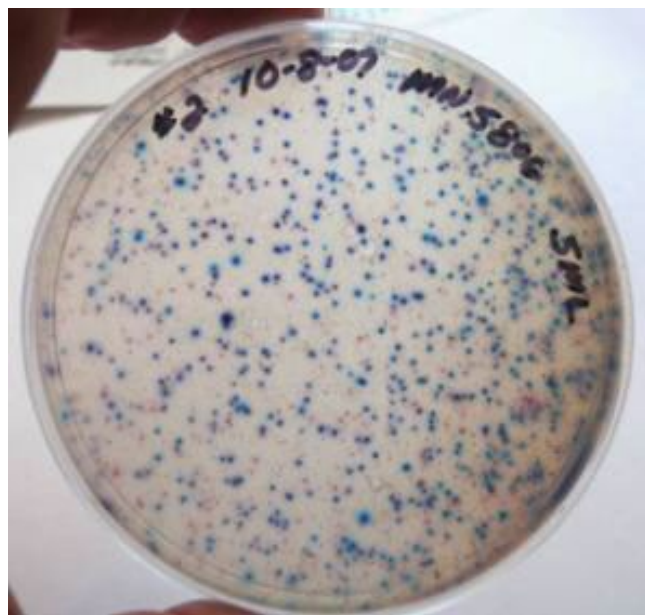
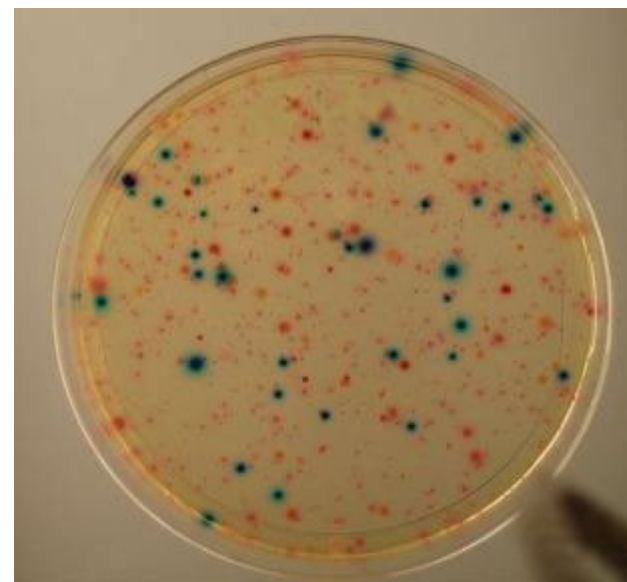
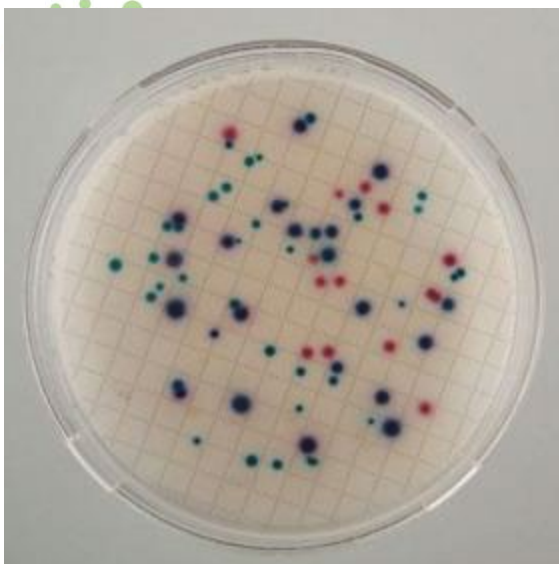






Gulf of Mexico - “Dead Zone”





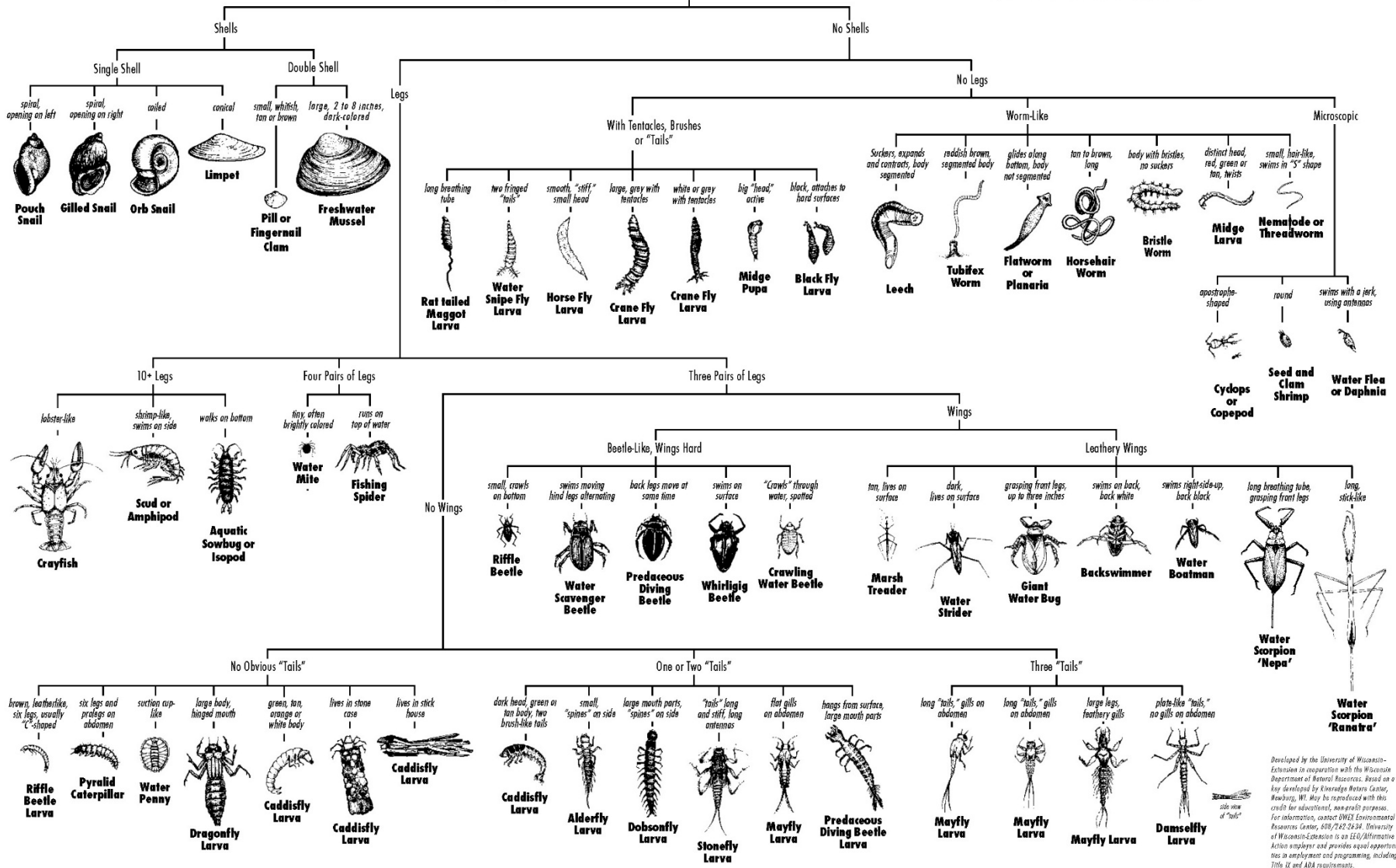


Benthic Macroinvertebrates: Why do we monitor them?

- Chemistry – just a snapshot in time
- Macroinvertebrates:
 - Not very mobile
 - Spend extended period in the water
 - Have different levels of tolerance to pollution
- Macroinvertebrates provide idea of water quality over extended period of time

Key to Macroinvertebrate Life in the River

(Sizes of illustrations are not proportional.)

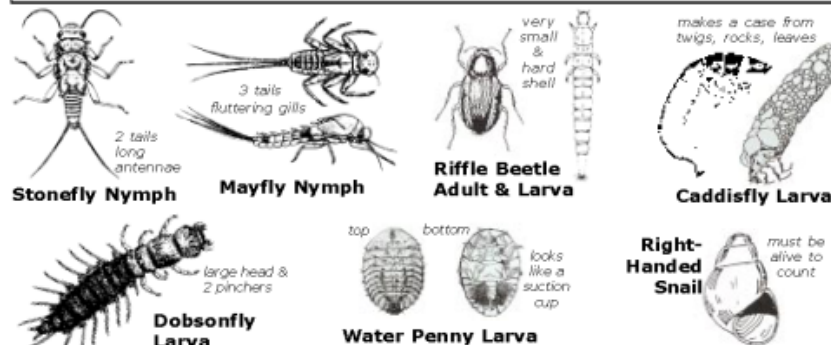


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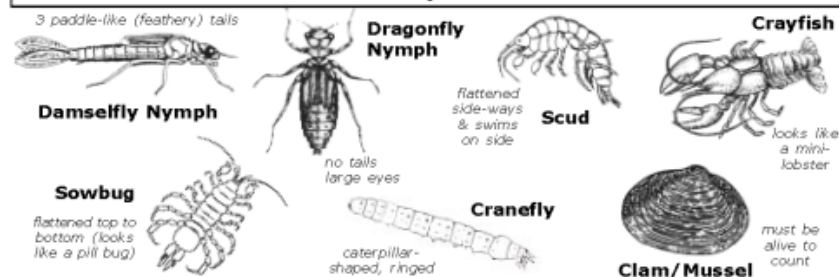


Macroinvertebrate Identification Key

GROUP 1 – Very Intolerant of Pollution



GROUP 2 – Moderately Intolerant of Pollution



GROUP 3 – Fairly Tolerant of Pollution



GROUP 4 – Very Tolerant of Pollution



Hoosier Riverwatch Biological Monitoring Data Sheet

Date: 10/04/2009Volunteer ID: 1000Site ID: 1000Stream Name: Example Stream IndianaLatitude: 40.76054Longitude: -85.76369Time: 12:15 AM / PMTime Sampling: 2.5 hrsAir Temp.: 29.5 °C

Current Weather:



Clear/Sunny



Overcast



Showers



Rain (steady)



Storm (Heavy)

Worst Weather (past 48 hours):



Clear/Sunny



Overcast



Showers



Rain (steady)



Storm (Heavy)

Check Methods Used:



Kick Seine Net (3 times)



Dip Net (20 jabs or scoops)

Check Habitats Sampled:



Undercut Banks



Riffles



Leaf Packs



Logs/Vegetation



Sediment

Pollution Tolerance Index (PTI)

Record the taxa (group) represented in your sampling by either entering the number of organisms you counted or a ✓

Group 1 - Intolerant

6

Stonefly nymph

5

Mayfly nymph

10

Caddisfly larva



Riffle Beetle



Dobsonfly Larva

Right-Handed or
Gilled snail30

Water Penny

4

of TAXA represented

16Weighting Factor
(x4)

Group 2 - Moderately Intolerant

15

Damselfly nymph

15

Dragonfly nymph

15

Scud

15

Sowbug

15

Crane fly larva

15

Clam/Mussel

2

Crayfish

2

of TAXA represented

6Weighting Factor
(x3)

Group 3 - Fairly Tolerant

2

Leech

>100

Midge larva

16Planaria/
Flatworm16

Black fly larva

2

of TAXA represented

4Weighting Factor
(x2)

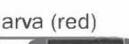
Groups 4 - Very Tolerant

25

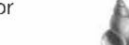
Aquatic worm

25

Blood midge larva (red)

25

Rat-tailed Maggot

1Left-Handed or
Pouch snail2

of TAXA represented

2Weighting Factor
(x1)

Pollution Tolerance Index Rating

(Add the final index values for each group)

28

PTI Ratings

Excellent 23 or More
Good 17 - 22
Fair 11 - 16
Poor 10 or Less

Please check other Biological Indicators you observed:

☐ Native Mussels☐ Zebra Mussels☐ Rusty Crayfish☐ Aquatic Plants

_____ % Algae Cover

_____ Diversity Index


IDEM


We Protect Hoosiers and Our Environment



www.hoosierriverwatch.com

1 23 10 31






HOOSIER
RIVERWATCH


VOLUNTEER **SEARCH** **VISUALIZE** **RIVERWATCH AT IDEM**

- What it Means
- Register a New User
- Register a New Site
- Register a New Organization
- Enter Data




ENTER DATA

Already have a Volunteer ID and Site ID?
Get started by entering data today!




REGISTER A NEW USER

Attended one of our workshops but
haven't created a userid yet? Do it now!



REGISTER A NEW SITE

You ready to hit the creek? Create a new
site to sample so Riverwatch can know
where you are!



SEARCH DATASETS

At Riverwatch we love our data! Come
explore the massive dataset that is
Riverwatch.

<p>Watershed:</p> <p>Select ▼</p> <p>Select from one of the watersheds in the state of Indiana. Once you select a watershed, the name of the watershed the system is searching will appear next to the magnifying glass below.</p> <p>Q</p>	<p>Waterbody Name:</p> <p>Search for River... Add to Search</p> <p>Begin by typing the name of your waterbody of interest into the search field to bring up a list of waterbodies to choose from. Note that if you have selected a watershed, only waterbodies in that watershed will appear on this list. When you find your waterbody of interest, click on "Add to Search" to begin the search.</p> <p>Q</p>	<p>County:</p> <p>Select ▼</p> <p>Select a county from the drop down list above. The number of counties that appear in this list depends on the other search fields you have chosen. Note: Due to some duplicative river names, the search might fail if a watershed AND river have been selected prior.</p> <p>Q</p>
<p>Site ID:</p> <p>Search for Site ID... Add to Search</p> <p>□ If you wish to search for data collected at a specific site, you will need to have the Site ID. If you are the person that registered the site, this will have been provided to you via email with your registration confirmation. If you are looking for results for a site you found in a previous search, you can simply enter the Site ID from the results table from that search here.</p> <p>Q</p>	<p>Organization:</p> <p>Select ▼</p> <p>Use the dropdown menu above to search for data collected by a specific organization. If you don't see your organization of interest, check for alternate spellings or abbreviations of its name.</p> <p>Q</p>	<p>Volunteer/User ID:</p> <p>Search for Vol ID... Add to Search</p> <p>If you wish to search for data you have entered into this system, you will need the User ID provided to you via email with your registration confirmation. If you are looking for results entered by a user identified in the results for a previous search, you can simply enter the User ID from the results table from that search here.</p> <p>Q</p>

More Search Criteria Clear Search



Copy Excel CSV PDF

Show 50 entries Filter by Test: Select Test Filter by Date: Select Date Search:

Map	Watershed	Stream	Site ID	Date	Test	Result	Unit	Macro	Macro Count	Event ID	Vol ID	Org
Unique Trip												
Map	Upper White	Lawrence Creek	1247	2022/08/18	Pollution Tolerance Index Rating	8	PTI			1247369608182022	3696	Blank
Map	Upper White	Lawrence Creek	1247	2022/08/18	Habitat	73	CQHEI			1247369608182022	3696	Blank
Map	Upper White	Lawrence Creek	1247	2022/08/18	Flow	3.55	CFS			1247369608182022	3696	Blank
Map	Upper White	Lawrence Creek	1247	2022/08/18	Temperature	22	C			1247369608182022	3696	Blank
Map	Upper White	Lawrence Creek	1247	2022/08/18	Temperature Change	0.5	C			1247369608182022	3696	Blank
Map	Upper White	Lawrence Creek	1247	2022/08/18	Dissolved Oxygen	8	mg/l			1247369608182022	3696	Blank
Map	Upper White	Lawrence Creek	1247	2022/08/18	pH	8.75	ph			1247369608182022	3696	Blank



Riverwatch Method

Dissolved Oxygen

Watershed

Driftwood

River Name

All

County

All

Organization

All

38

Total Samples

8.29

Average

7.31

State Ave

15

Unique Sites



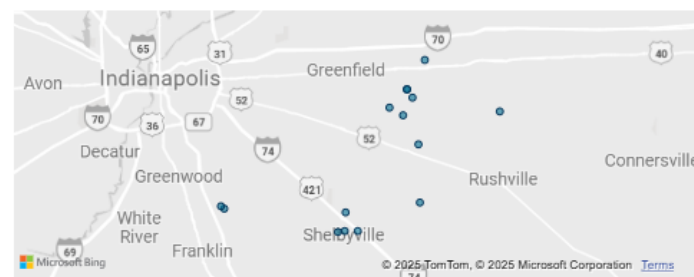
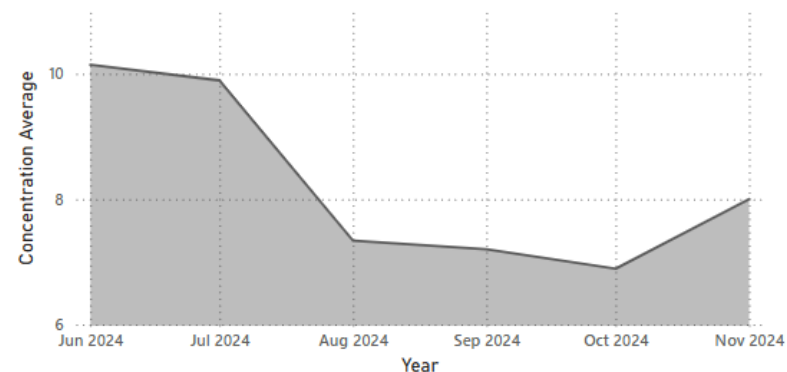
1/1/2024

12/31/2024



Dissolved Oxygen

Unit —mg/l



Common	Concentration	Unit	Sample_Date	Watershed
Dissolved Oxygen	8.89	mg/l	Wednesday, June 12, 2024	Driftwood
Dissolved Oxygen	9.17	mg/l	Wednesday, June 12, 2024	Driftwood
Dissolved Oxygen	10.20	mg/l	Wednesday, June 12, 2024	Driftwood
Dissolved Oxygen	15.17	mg/l	Wednesday, June 12, 2024	Driftwood



Chem

Bio

CQHEI

Flow

Chem Comparison

Bio Comparison

CQHEI Comparison





- ☐ Adams
- ☒ Allen
- ☐ Bartholomew
- ☐ Benton
- ☐ Blackford
- ☐ Boone
- ☐ Brown

Allen

Watershed

All

Organization

All

Invert Type

All

Taxa Found



182

Unique Sampling Events

3187

Total Inverts

23

Unique Taxa

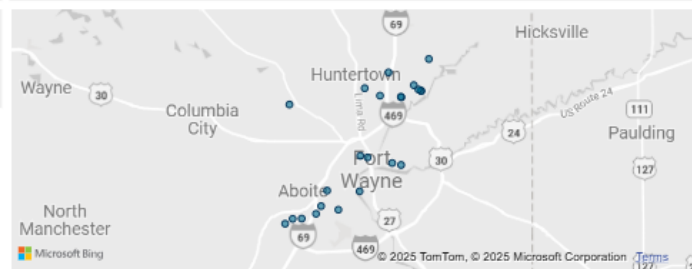
10.23

PTI Score

19.58

State Ave PTI

6/1/1996 1/17/2025



Common	Fish_Macro_Taxa	Macro Count	Sample_Date	Watersh
Invert Sampling	dragonfly	1	Sunday, November 02, 2003	Eel (Nor
Invert Sampling	leech	1	Sunday, November 02, 2003	Eel (Nor
Invert Sampling	damselfly	5	Sunday, November 02, 2003	Eel (Nor
Invert Sampling	clam	12	Sunday, November 02, 2003	Eel (Nor
Invert Sampling	crayfish	1	Thursday, August 31, 2006	St. Josep



Chem

Bio

CQHEI

Flow

Chem Comparison

Bio Comparison

CQHEI Comparison





Riverwatch Method

Habitat

River Name

All

County

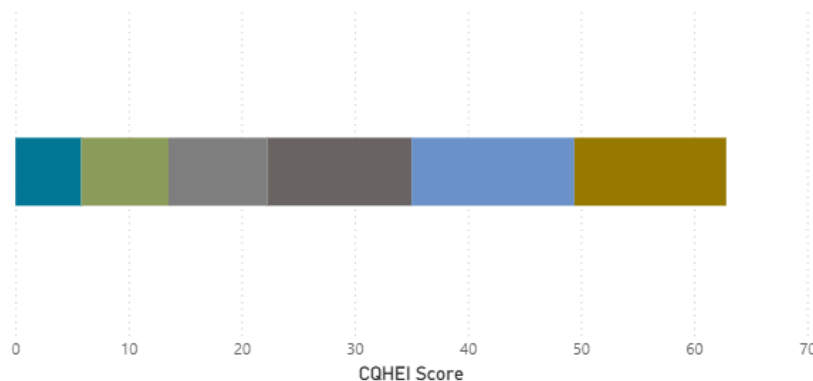
All

- ☐ Benton Central Jr/Sr High School
- ☒ Benton County SWCD
- ☐ Benton Mennonite Church
- ☐ Bethany Christian High School
- ☐ Big Blue River Watershed Project
- ☐ Big Lake Association
- ☐ Big Pine Creek Watershed

Benton County SWCD

Stacked Bar, CQHEI Score Breakdown

● Depth & Velocity ● Fish Cover ● Riffles & Runs ● Riparian Areas ● Stream Shape ● Substrate



126

Unique Sampling Events

62.30

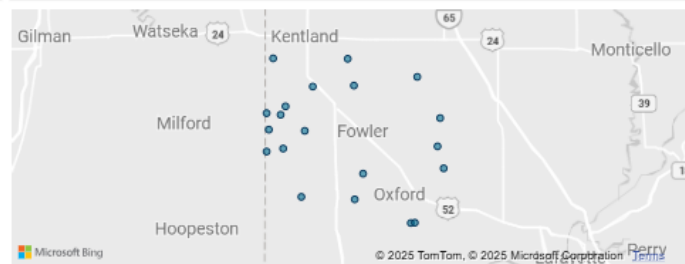
Average CQHEI

68.49

State Average CQHEI

2/23/1995

2/12/2025



Common	Concentration	Sample_Date	Watershed	Stream
Habitat	56.00	Thursday, May 21, 2009	Iroquois	Bowton Ditch
Habitat	32.00	Friday, October 29, 2010	Iroquois	Bowton Ditch
Habitat	40.00	Monday, October 03, 2011	Iroquois	Bowton Ditch
Habitat	74.50	Wednesday, May 30, 2012	Iroquois	Bowton Ditch
Total				



Chem

Bio

CQHEI

Flow

Chem Comparison

Bio Comparison

CQHEI Comparison





Advanced Workshops

- Basic workshop prerequisite
- Approx. ½ day trainings

E. Coli Training

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

What is *E. coli*?

- Member of the Enterobacteriaceae family (>100 species)
- Gram-negative – stains pink
 - Protective capsule prevents white blood cells and antibiotics from being effective
- Rod-shaped, 2-micrometers long
- Indicator species



Macroinvertebrate Training

Family: *Hydropsychidae*

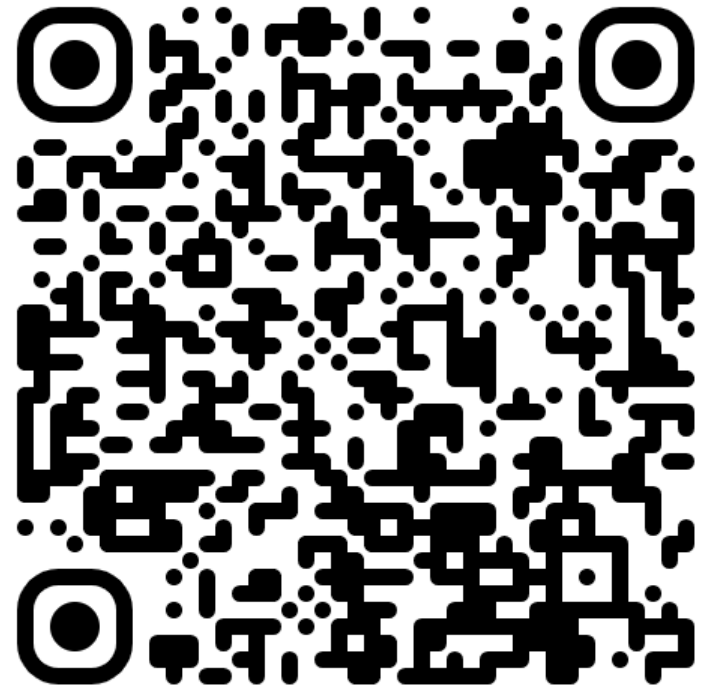
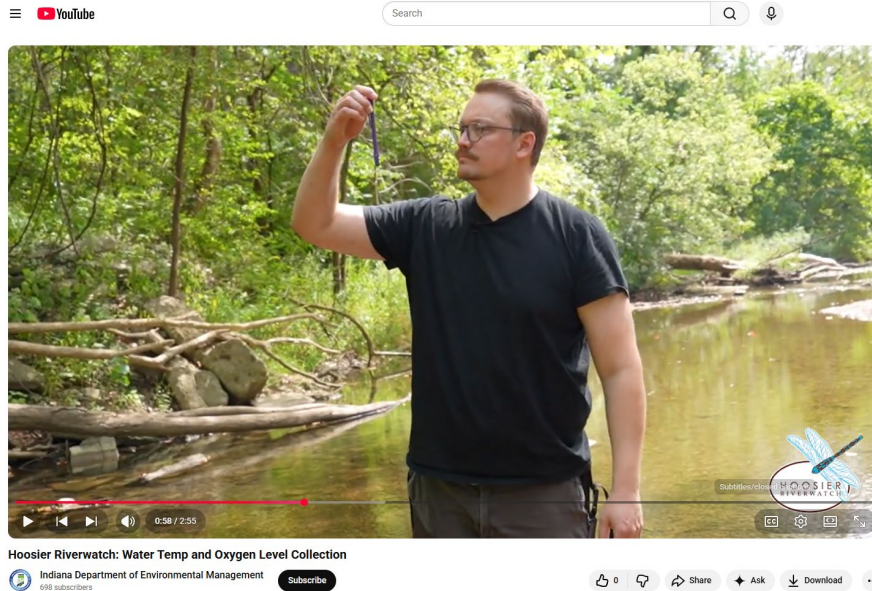
- “Common Netspinner”
- 13 genera, 155 species in U.S.
- Prefer coarse substrate
- 3 thorax plates (saddles), “hair brush” gills below abdomen and tail hooks
- Collector/Filterer
 - Entrance to stationary shelter has silken net that catches detritus in current





We Prot

Training Videos





We Prot

Hoosier Riverwatch JUNIOR

- K-12 Activity Guide
- Low/No Cost Modules
- Tied to Education Standards





Questions?

Dylan Allison

Hoosier Riverwatch Coordinator, IDEM

Riverwatch@IDEM.IN.gov

317-308-3392

2026 Bloomington Environmental Commission Schedule

January 15

February 19

Environmental
Commission 101

Officer Elections

March 26

rescheduled due to
Spring Break

April 16

May 21

June 11

rescheduled due to
Juneteenth holiday

July 16

August 20

September 17

October 15

November 19

December 17