



### Committee Members

Mary Knittle, Chair  
Stefanie Covino, Vice Chair  
Ted Conna  
Nathan Fournier  
Evelyn Herwitz  
Deirdra Murphy  
7<sup>th</sup> member TBD

### Contacting the Committee

Department of Sustainability and Resilience  
**Address:** 455 Main Street, Room 108,  
Worcester, MA 01608 (by appointment)  
**Email:** GreenWorcester@worcesterma.gov  
**Website:**  
[www.WorcesterMA.gov/GreenWorcester](http://www.WorcesterMA.gov/GreenWorcester)

### Department of Sustainability and Resilience

#### **Our Mission:**

To implement the ambitious and urgent goals of the Green Worcester Sustainability and Resilience Strategic Plan (GWP), a roadmap for making Worcester the greenest mid-size city in the country.

#### **Our Staff:**

John Odell, Chief  
Jacquelyn Burmeister, Senior Environmental Analyst, Lakes and Ponds Program  
Jessica Davis, Project Manager  
Nick Pagan, Environmental Analyst, Lakes and Ponds Program  
Sushil Rajagopalan, Energy Analyst  
Luba Zhaurova, Director of Projects

#### Accessibility:

The GWAC is committed to ensuring that its public meetings are accessible to all. Should you require interpretation, auxiliary aids, services, translations, written materials in other formats, or reasonable modifications in policies and procedures, please contact the DSR a minimum of 48 hours in advance of the scheduled meeting.

#### Translations:

*Hay disponibles servicios de interpretación y otras adaptaciones con solicitud previa.*  
*Avisanos por*  
[greenworcester@worcesterma.gov](mailto:greenworcester@worcesterma.gov)

# CITY OF WORCESTER

## Green Worcester Advisory Committee

### Meeting Minutes

Monday, June 27, 2022 at 5:30 p.m.

Location: Esther Howland Chamber, City Hall Floor 3

This meeting will be held in-person at the date, time and location listed above. Meeting attendees will additionally have options to participate remotely by joining online or by phone. Note: If technological problems interrupt the virtual meeting, the meeting will continue.

**Web:** Use the following link to join the meeting via computer  
<https://cow.webex.com/meet/greenworcester>, or

**Call:** 415-655-0001. **Access Code:** 2313 821 4580.

### **Attendance**

#### Present

District 1: Evelyn Herwitz  
District 2: Nathan Fournier  
District 4: Ted Conna  
District 4: Deirdra Murphy  
District 5: Stefanie Covino, Vice Chair

#### Absent:

District 1: Mary Knittle, Chair

#### Staff:

John Odell  
Jessica Davis  
Sushil Rajagopalan  
Luba Zhaurova

### **Call To Order at 5:35 by Stefanie Covino, Committee Vice Chair**

- 1. Welcome.** The Vice Chair read out the rules of meeting conduct.
- 2. Approval of Minutes – May 9, 2022**

The Committee voted unanimously to approve the May 9<sup>th</sup> minutes with a correction of item 3Bii as requested by Member Conna. The correction is to change two committee members to a non-quorum number of the committee members when working on a draft outside a meeting.

- 3. Old Business**

- a. Review of the draft letter from the GWAC to the Mayor about requested qualifications for the new City Manager position.
  - i. Member Conna, Member Covino and Member Herwitz developed a draft to share with the committee. Member Covino explained that the letter is a request to the City Council Municipal Operations Subcommittee to ensure that sustainability and climate change resilience is incorporated into the search for a new City Manager as a key element in new manager's qualifications and incorporated into the job description. Member Conna read aloud the draft letter (**Attachment A**). The committee agreed that the letter was well written and that any small insubstantial changes could be made by the original ad hoc group working on it before finalizing.
  - ii. A resident present in person, Joseph Johnson, asked what will happen to the final letter including whether it would be read aloud at a City Council meeting. He shared that he liked the letter and wanted to ensure the letter became public. Mr. Odell explained that the letter won't be read into the record at a City Council meeting but will be part of the meeting packet to be discussed by the City Council. He suggested that someone from the committee attend the meeting to answer any questions they may have. To avoid any unintentional breaches of the Open Meeting Law, he recommended that no more than three GWAC members can attend the Council meeting in person and they must identify themselves as members but other members can watch virtually.
  - iii. Member Herwitz asked what the deadline is for completing the letter. Mr. Odell explained that there isn't a hard deadline for the letter but if approved now it could be ready for the City Council's July 19<sup>th</sup> meeting. It would need to be submitted at least a week in advance of the meeting to get on the agenda.
  - iv. The committee voted unanimously that any members with feedback on the letter should send it to DSR staff within 1 week for the staff to send to Member Conna and that the original ad hoc group can make any non-substantial changes (grammar, fixing typos, etc.) to the letter in the meantime. As long as no substantial changes are suggested by the other committee members, the letter is approved to send to the City Council for their July 19<sup>th</sup> meeting. If there are substantial changes then it would return for discussion at the next meeting.

#### **4. New Business and DSR Updates**

- a. Internal survey for the members to identify GWAC priorities
  - i. As Chair Knittle was absent, Ms. Davis presented an idea she shared with her. Chair Knittle suggested creating a survey for members to vote on their top priorities for the committee's work to assist with identifying overarching top priorities to focus on. The committee agreed that the DSR staff should create this survey to gather priorities, as well as to contribute to a list of non-governmental organizations that can be partners in this work.
- b. Review of Greenhouse Gas (GHG) Inventory Event and final report
  - i. Mr. Odell shared that the final written report for the GHG inventory will be completed soon and will be sent out to the committee members when finalized.
  - ii. Ms. Zhaurova asked if the committee had any feedback on the public event on May 26. Member Herwitz thought the event was great but wished more members of the public attended. She suggested the committee consider how to get more members of the public to attend these types of events in the future.
  - iii. A resident present in person, Greg Doerschler, asked if the event was recorded and available to watch online. Ms. Davis replied that the video is posted on the Department of Sustainability and Resilience webpage.
  - iv. Member Conna recommended that DSR should have a goal of getting our events and work into the local newspapers. Member Herwitz agreed that getting our stories into the newspaper is important but we need to consider our priorities and what are the most interesting and effective hooks that will engage the journalists and readers. Additionally, the priority survey will help determine topic priorities for media coverage. Member Herwitz asked if GWAC members could

write letters to the editor. Mr. Odell previously spoke with the legal department to get an answer to this question. The legal department said that if you identify as a member of the committee, then you are deemed to be a representative of the City, whether you are hired or volunteering (as the GWAC members are). Therefore, if you identify yourself as a GWAC member then you would need to contact the DSR first who would then seek approval from the City Manager for the public communication. However, if you do not identify as a GWAC member in your public communication, it would still be prudent, though not required, for the City to preview the public communication beforehand to determine if it will impact the City operations negatively or go against the City's position on a certain issue.

c. Vacancy recruitment progress

- i. Mr. Odell shared that we haven't received any new applications so we are looking for new ideas to promote the vacancy and will be working on that over the coming months.

## 5. Standing Items

a. Presentations by Community Groups:

- i. Ms. Davis explained that at the previous GWAC meeting, the GWAC requested having representatives from local organizations come to the GWAC meetings to present their work and how it is related to the Green Worcester Plan (GWP). DSR reached out to the groups that participated in the development of the GWP and we received a few responses. There are three groups signed up to present at future meetings so far. Ms. Davis asked that the GWAC members share any other requests for presenters so that DSR can reach out to them.
- ii. **Blackstone Watershed Collaborative.** Member Covino, the GWAC's Vice Chair and the program manager for the Blackstone Watershed Collaborative, presented on the Collaborative's work (**Attachment B**).
  - a. A resident present in person asked about where to watch the videos that Member Covino discussed in her presentation. He also asked if there was a central repository for all the events she mentioned. Member Covino replied that the videos are free to watch on YouTube and the presentation will be attached to the meeting minutes. The list of events is available on the BlackstoneCollaborative.org website under their meeting minutes.
- iii. **HomeHarvest Central MA.** Member Fournier, a GWAC committee member and owner of HomeHarvest Central MA, presented on how to transform underutilized spaces into abundant ecosystems (**Attachment C**).

b. Strategic Communication

- i. GWAC social media promotional documents
  1. Ms. Davis explained that at the previous GWAC meeting, Chair Knittle requested a social media posting draft to promote the GWAC and the seat vacancy. Ms. Davis presented two drafts for feedback (**Attachment D**).
  2. A resident present in person suggested using targeted advertising on Facebook for the zip code of District 3 to advertise the vacancy to those who live in that area.
  3. Member Covino suggested using different photos in the social media posts that would demonstrate various initiatives that DSR works on such as photos of trees and water.
  4. Member Fournier suggested working with high school interns or freelancers for video marketing on our work such as the GHG emissions.
- ii. HEART (Healthy Equitable Affordable Retrofits & Training) Event, July 9, 2022
  1. Ms. Davis shared that DSR was asked to table at this event and she and Mr. Rajagopalan of DSR will attend. The event organizers asked DSR to share "about the Green Worcester

Plan and/or any kinds of city-led or supported efforts/programs/plans for addressing energy efficiency in older housing stock, creating green jobs, or related topics.”

- iii. Member Conna shared some outreach ideas:
  - 1. DSR could work with city arts and cultural organizations to promote sustainability themed events such as art or music events. It would raise awareness, mobilize the creativity of the arts community and would be a new way to reach new people. This could be a good project for an intern.
  - 2. DSR could run a sustainability contest for the general public, school kids and adults to seek out new and better ideas for living and working sustainability. The contest could be organized by participant categories such as a school focused contest or one for the general adult public. This would engage people and mobilize their creativity and be a way to connect with new people. This could be a good project for an intern also.
  - 3. The Worcester Climate Collaboration has a periodic email newsletter where they mention relevant events and what DSR and GWAC are doing. GWAC members should sign up to receive that. One item in the newsletter was Worcester’s Now | Next master planning campaign and Member Conna suggested that GWAC members attend the planning workshops to make sure sustainability is included in the City’s master plan.
- iv. Member Conna asked if a standing item category for “Citizen Concerns” could be added to the agenda. Mr. Odell replied that agendas need to represent what is reasonably expected to be discussed at a meeting, allowing the public an opportunity to decide whether or not to participate. Since finalized agendas need to be posted minimum 48 hours in advance of the meeting, proposed agendas items need to be sent to DSR in advance of that to ensure they get placed on the agenda in compliance with the Open Meeting Law. Mr. Odell encouraged that anticipated topics for the Citizen Concern section are provided for agenda inclusion. Member Conna felt that there are times when there may not be enough time to place specific Citizen Concerns’ topics in advance. Mr. Odell stated that in that case, such topic may be introduced, but cannot lead to a discussion; instead, with the Committee’s approval, it can be continued to the next meeting for the actual discussion.
- v. Member Herwitz asked how the GWAC can all identify all of the sustainability related organizations in the city and how to manage the scope of the GWAC’s work. Ms. Zhaurova said that’s why the priority list from the survey will be important for organizing the scope and the GWP sets clear goals which we can follow when getting overwhelmed by all that needs to get done in the City.
- vi. Member Covino asked if an “Events” section can be added as a standing item on the agenda. Mr. Odell replied that would work but it would need to have relevance to the GWAC and that we can’t recommend or promote a certain product or company.

c. Energy

- i. No comments.

d. Resilience

- i. Member Covino encouraged different city departments be integrated into the DSR’s work. She emphasized the issue of flooding in the City and hoped that the relevant departments (Department of Public Works, Inspectional Services Department, Division of Planning and Regulatory Services and DSR) could work together to address that issue. Flooding is already impacting the City and will increase in the future and it particularly impacts our most vulnerable residents.
- ii. Member Conna brought up two citizen concerns. One was that there needs to be an effort for community engagement and community organizing. The second was that the City needs to address invasive species. Member Fournier said that he has experience with removing invasive species and it is a very costly and difficult effort. There are some groups in the City that are working on that issue so GWAC could try to support them in some way, particularly by spreading

awareness and promoting their efforts. Member Covino said that the Conservation Commission asks for native species or wildflower mixes for projects and DPW does the same. However, the Conservation Commission could do more to assist in making sure native plants are planted. In terms of removal of invasive plants, Clark University completed a large project that could serve as an example. Member Conna mentioned that there is a local group working on this issue, the Worcester Native Plant Initiative. A resident present in person, said that he is interested in the invasive plants issue. He runs a Facebook group and is part of a local group that works to protect Dodge Park. He suggested building a rain garden in that park to manage the storm water there.

e. Green Worcester Plan Action Updates

- i. Ms. Zhaurova shared that DSR bid for Electric Vehicle Charging Stations in 3 municipal garages (Pearl Elm, Common and Federal) which will total 18 parking spaces for public use of the EV vehicle charging. DSR is currently working on executing a contract with an installer. This is important for our goal of electrifying both the municipal fleet and private vehicles as well.

**6. Received Communications**

- a. Ms. Herwitz shared this event with the committee: Faith Action for Climate Justice: Summer Surge 2022: 6 - 8 PM, Wednesday, June 29, First Unitarian Church, 90 Main Street, Worcester, MA 01608 (**Attachment E**)

**Adjournment: 7:51 pm**

The Committee voted unanimously to adjourn the meeting at 7:51 pm.

**Attachments**

*Attachment A: Draft Letter for City Manager*

*Attachment B: Blackstone Watershed Collaborative Presentation by Stefanie Covino*

*Attachment C: Home Harvest Central MA by Nathan Fournier*

*Attachment D: Social media post drafts*

*Attachment E: Faith Action for Climate Justice Event email*

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**Upcoming Meetings**

<i>Date</i>	<i>Location</i>
July 25	Levi Lincoln
September 12	Meeting Room A (50 Officer Manny Familia Way)
October 24	Esther Howland
December 12	Esther Howland

# DRAFT 2.1

To: Municipal Operations Subcommittee, via Worcester City Council

From: Green Worcester Advisory Committee

Date: June 27, 2022

Honorable City Councilors:

As members of the Green Worcester Advisory Committee, we are tasked with helping the City of Worcester implement the ambitious goals of the [Green Worcester Plan](#) by serving as the liaison between the community and city government. We applaud your vision in approving the Plan in April 2021, and we write to you now because it is clear to us that successful implementation of the Plan will require the commitment and participation of many different city departments and agencies. For that to happen, leadership from the top is essential.

As the plan states, “The increasingly urgent and complex challenges of sustainability and climate change are here to stay. In response, we must coordinate all our investments in energy, buildings and development, transportation, and stormwater management; ...care for our green and blue spaces; and [ensure] that our land use planning maximizes benefits for Worcester and all its residents. This will give priority to investments that provide “co-benefits,” the quality of life, equity, and prosperity benefits that come from actions that promote sustainability and climate change resilience.”

The health and resilience of our city and residents is a top priority for any City Manager. But to ensure our city is prepared for the coming challenges of climate change, we ask that among the many criteria you consider in the search for Worcester’s next City Manager, you seek a chief executive with knowledge of sustainability issues and a strong commitment to advancing the goals of the Green Worcester Plan. Under the leadership of John O’Dell, Luba Zhaurova, and their excellent staff, the Department of Sustainability and Resilience has made considerable progress as they begin to implement key aspects of the Plan. But no single department can do this alone—in order to succeed, implementing the Green Worcester Plan must become a city-wide effort. That means educating and engaging many other city employees for whom sustainability is currently neither their first priority, nor part of their job description. Such an effort cannot fully succeed without strong leadership and commitment from the top executive, and this is your opportunity to ensure that.

Climate change is affecting our city already and our most vulnerable citizens will experience its impacts hardest – through flooding, extreme heat, increasing drought, and the many ways that climate change will increase the cost of living. Understanding these challenges in the context of cost-effective, equitable, and common-sense solutions will be a critical element of leading our city into its next phase. Seeking a leader with experience in environmental sustainability and climate resilience will help Worcester successfully respond to these challenges.

Ed Augustus has had the vision to support and promote the Green Worcester Plan and its goal to make Worcester one of the most sustainable and climate-resilient mid-sized cities in America by 2050. It's a smart strategy that will position Worcester well, both economically and environmentally. But for that goal to be realized, the next City Manager needs to be someone who will take it to the next level. Sustainability must be woven into the fabric of everything the city does—from improving energy efficiency in buildings and incorporating climate resilience into school programming, to increasing tree retention and enforcing floodplain regulations. The Green Worcester Plan outlines an ambitious strategy to bring diverse voices together to address the complicated challenge of climate change, but we need a leader committed to making this vision a reality.

Worcester recently surpassed 200,000 people in the last Census. As we grow, we can set an example to others around the country by showing how we can grow sustainably, support our current residents, and invite new ones into our wonderful City. Having adopted the Plan as official city policy, we ask that you now include experience in climate resilience and environmental sustainability as a key element in the new Manager's qualifications, and make the citywide implementation of the Plan's sustainability goals an explicit part of the new Manager's job description. This will ensure equitable, cross-cutting implementation of our former Manager's forward-thinking vision. We look forward to working with you to use the City Manager search process to introduce new candidates to the Plan, and hire a new City Manager who is well qualified to lead our city into the next phase of growth and resilience.

Respectfully submitted,

GWAC

# Blackstone Watershed Collaborative

**Stefanie Covino**  
Program Manager  
[scovino@clarku.edu](mailto:scovino@clarku.edu)

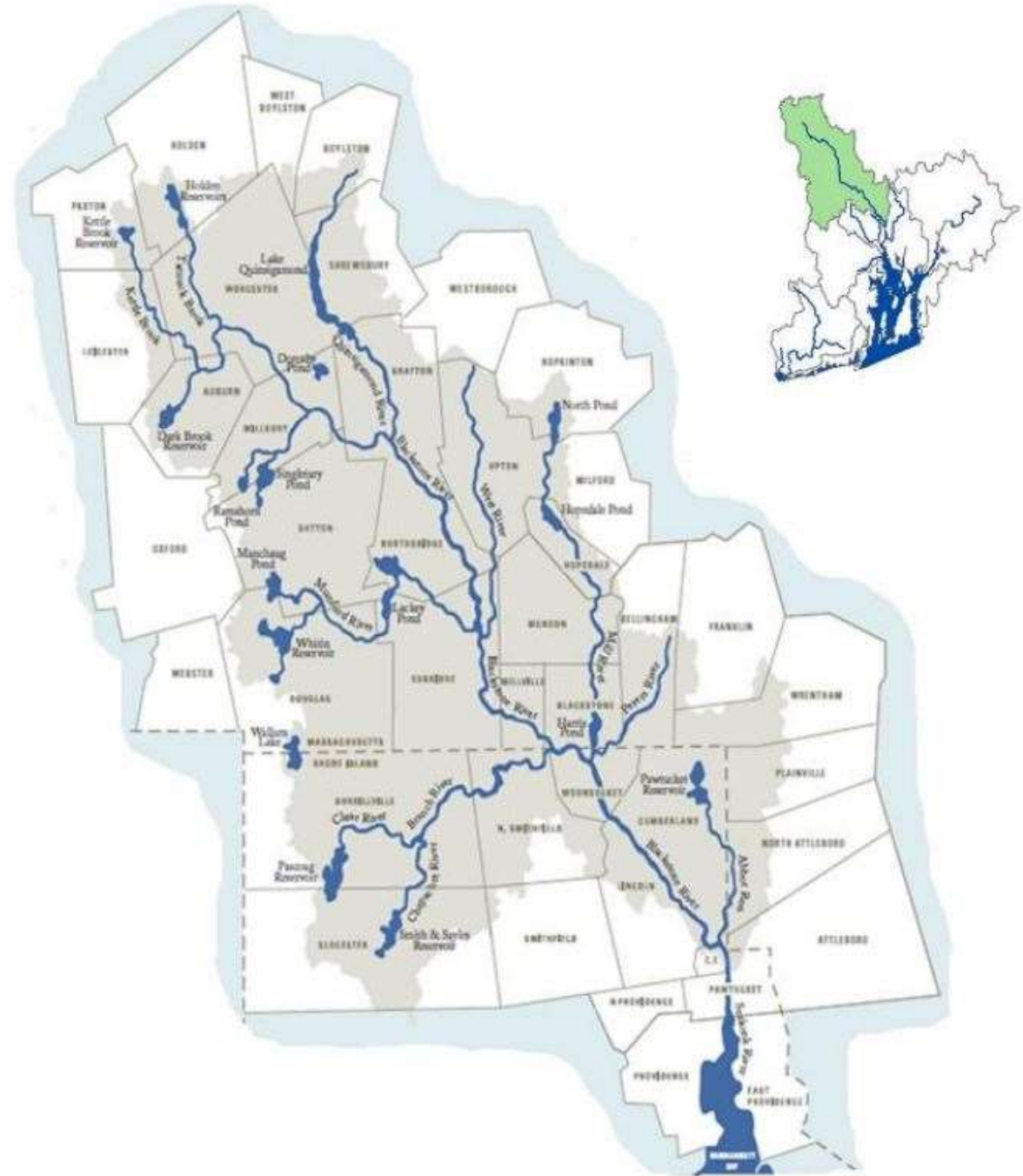


Blackstone Watershed  
Collaborative



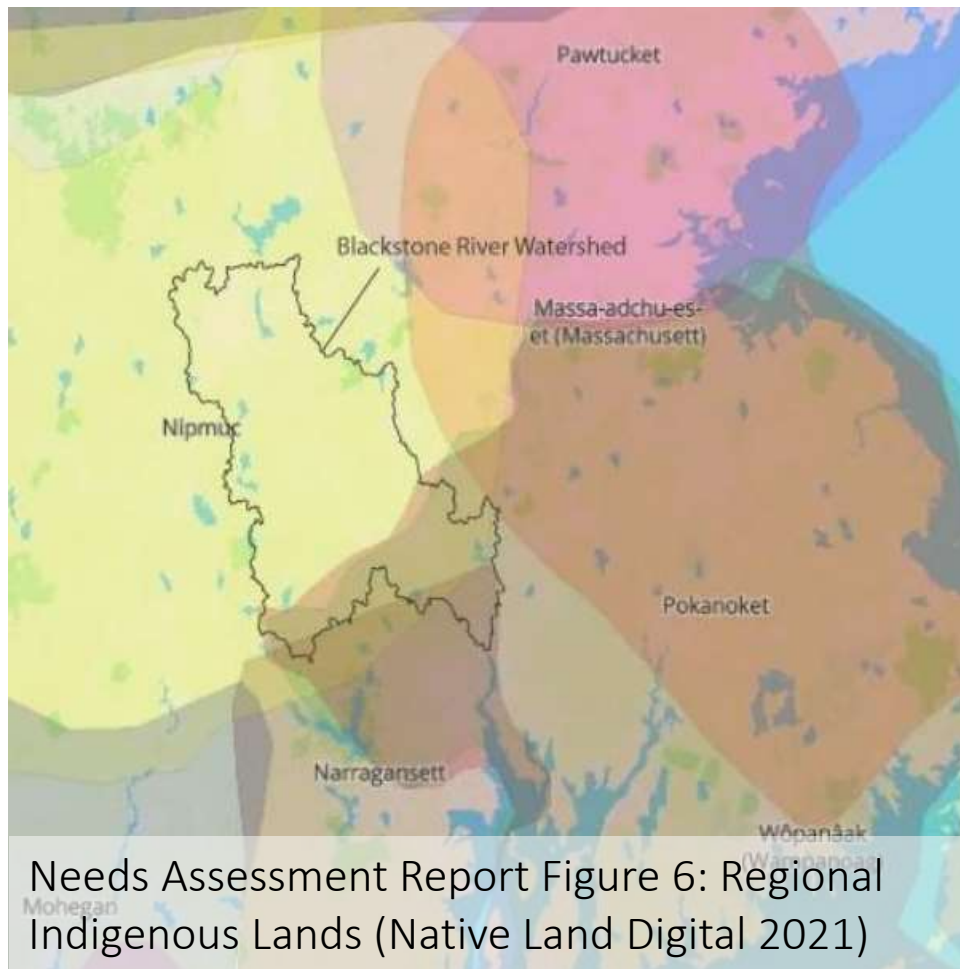
# Blackstone Watershed


- 48 miles long
- Drops 438'
- 475 square miles
- 39 communities
- 2 states



# Indigenous Land

- [Nipmuc Nation](#)
- [Pokanoket Nation](#)
- [Mashpee Wampanoag Tribe](#)
- [Narragansett Indian Tribe](#)



Linked! 



Centuries of careful land stewardship with close ties to the river

# Industrial revolution & transformation

*“America’s hardest working river”*

*“America’s most polluted river”*

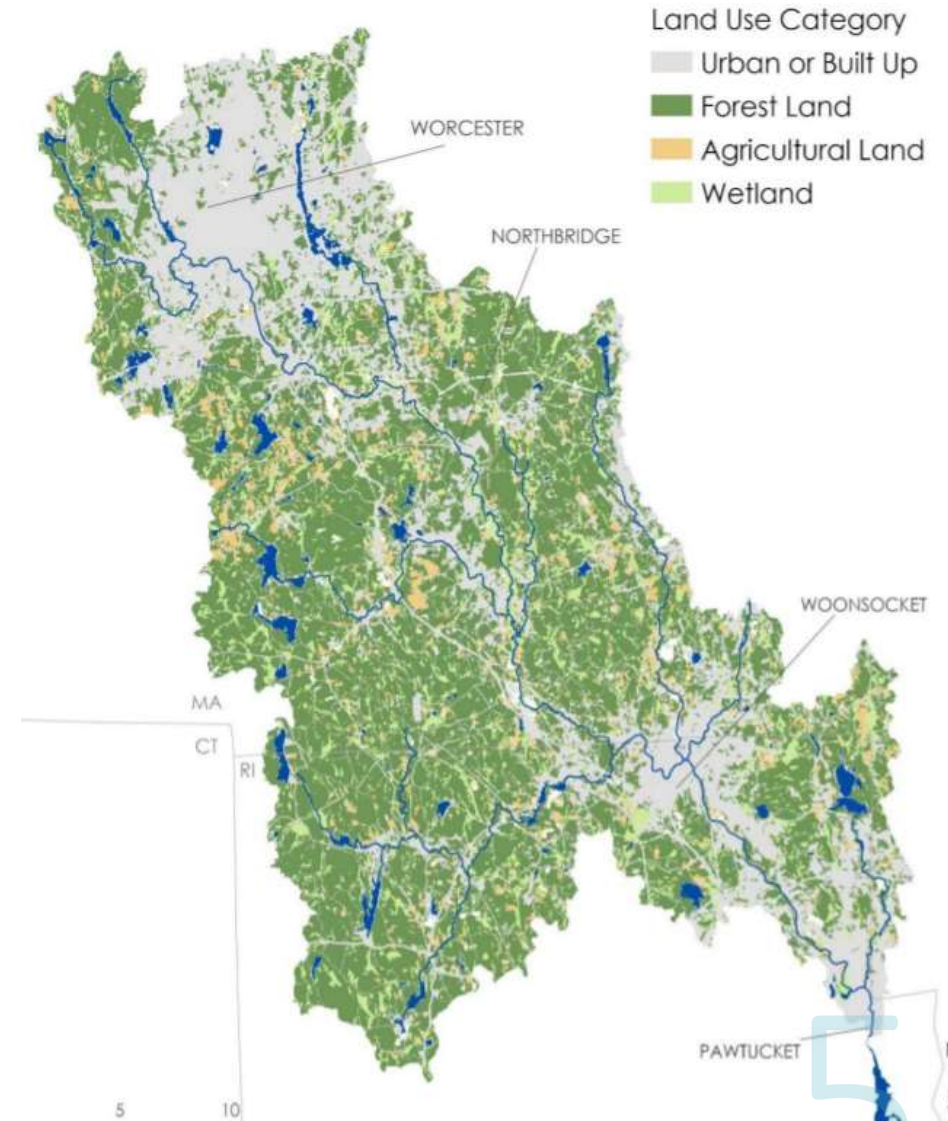
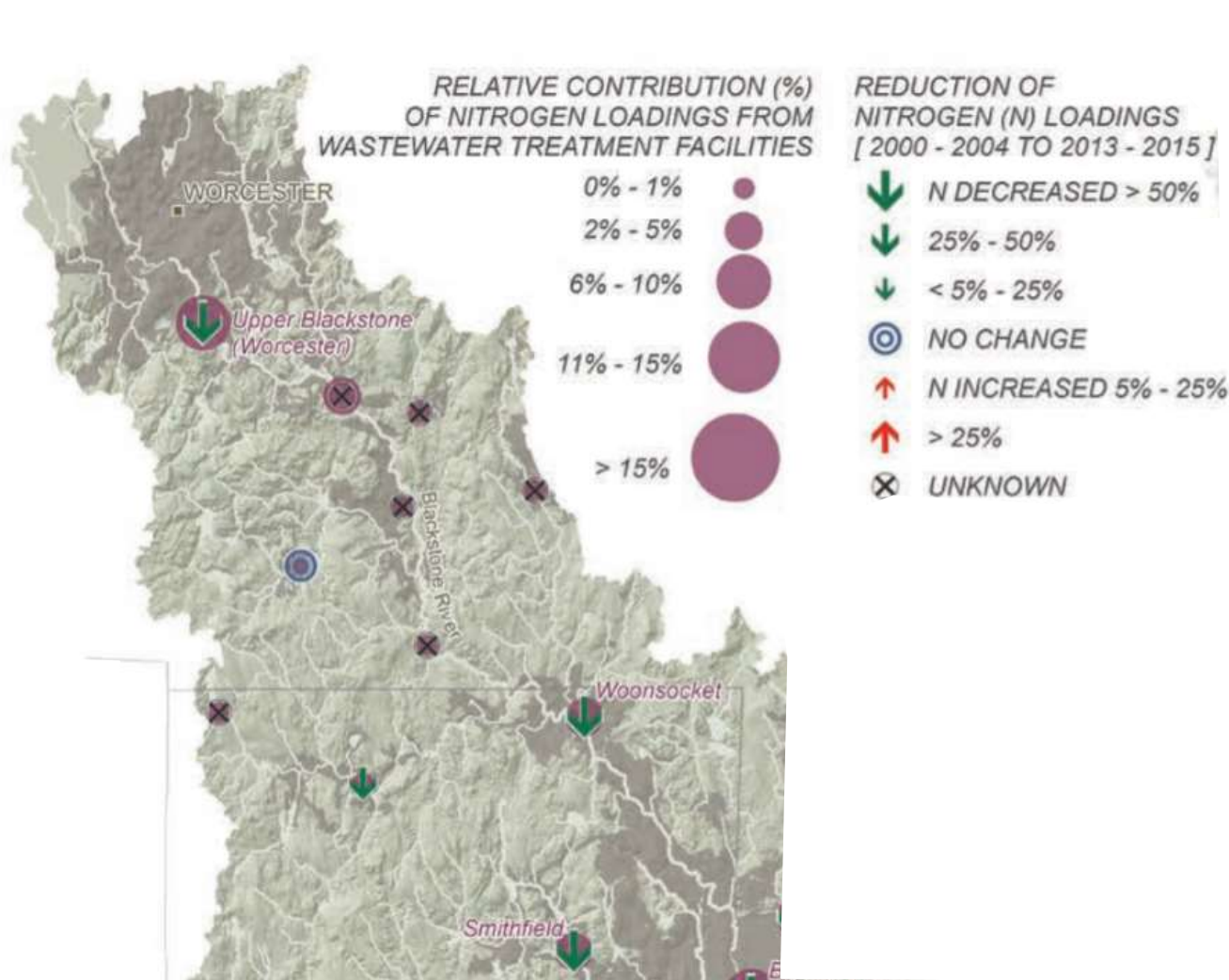


*Slater Mill, America's first water-powered cotton-spinning mill in Pawtucket, RI (c.1790)*



*A portion of the Blackstone Canal – created from and near the River to transport goods through 49 locks*

# While the water has gotten cleaner



**Reductions in Nitrogen Loading**

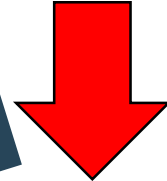


# ...current challenges are growing

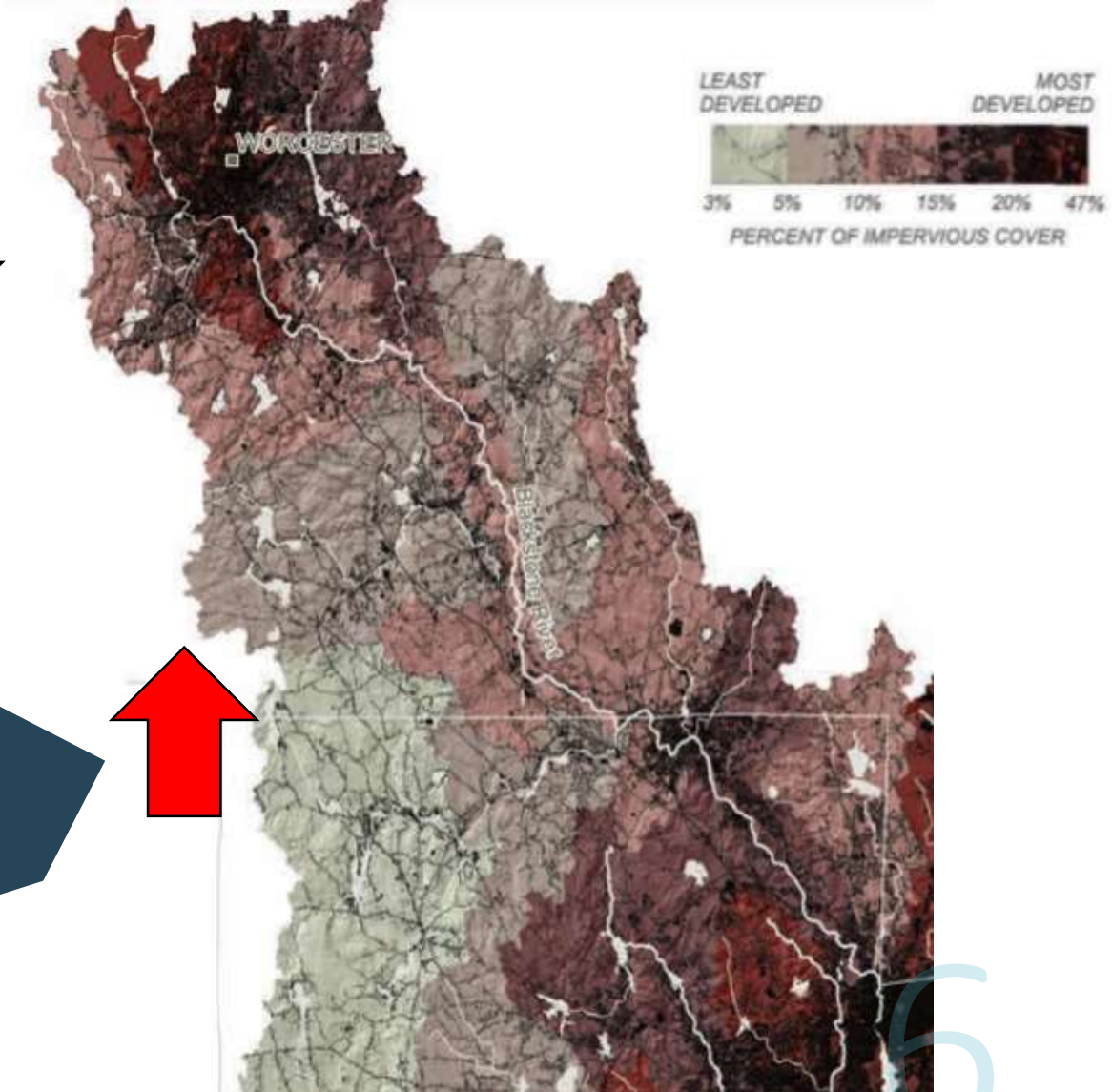
WATER QUALITY CONDITIONS FOR AQUATIC LIFE



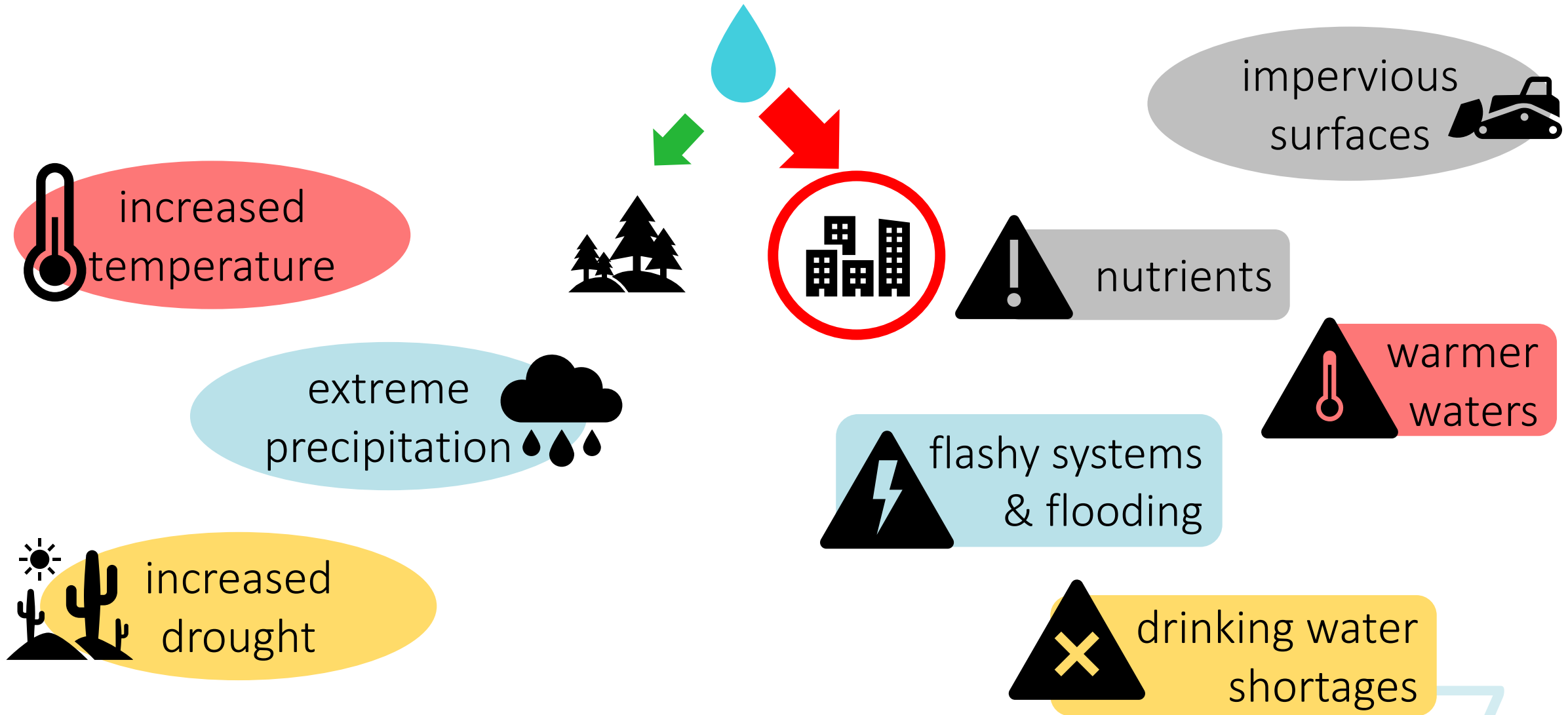
Water quality



Impervious surfaces

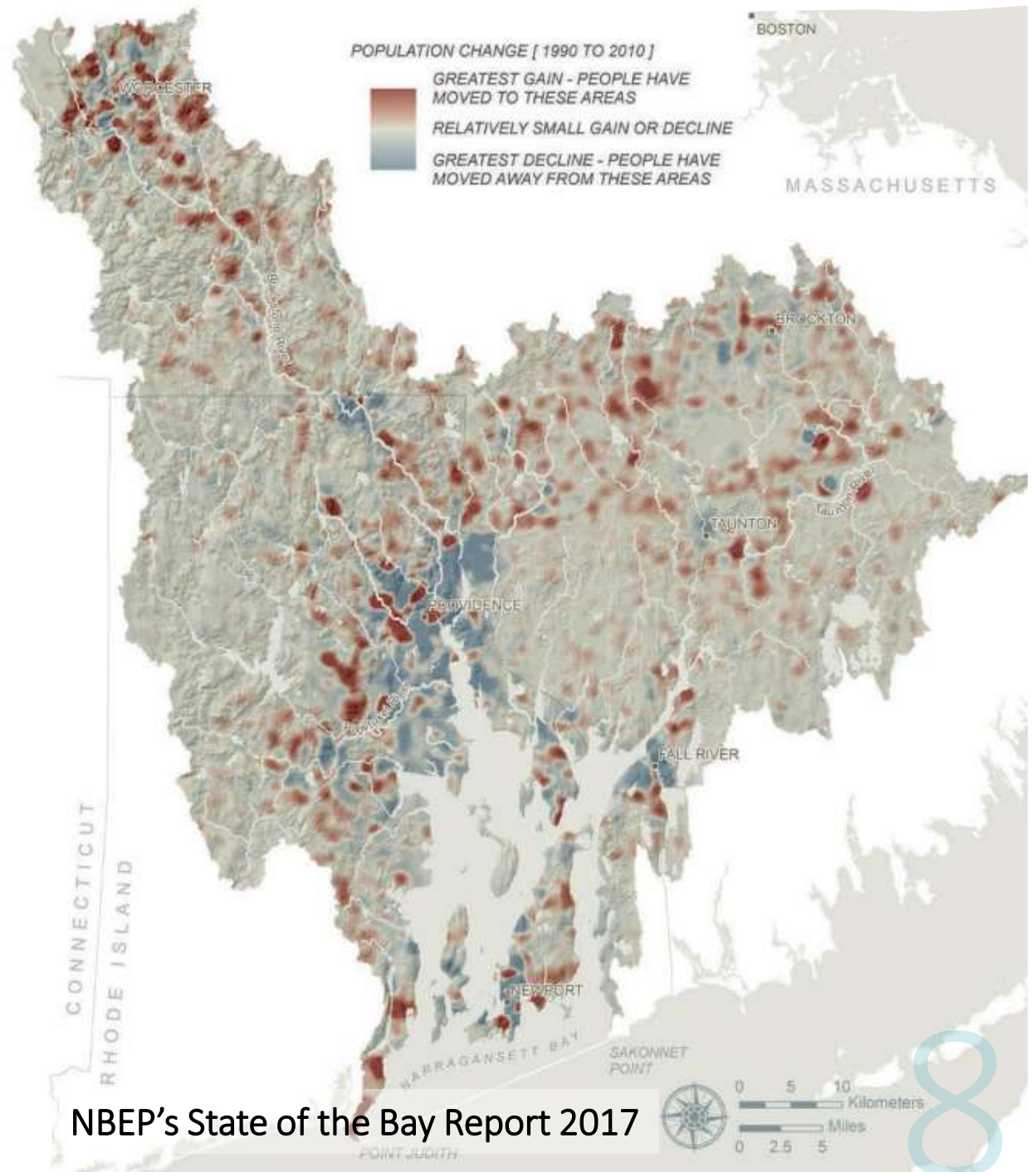


# ...climate change exacerbates impacts

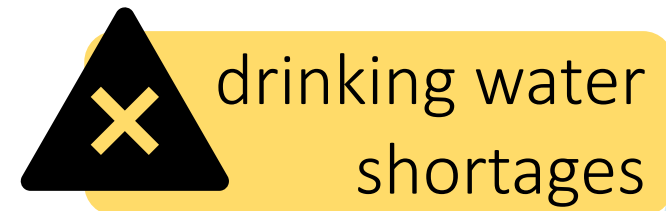
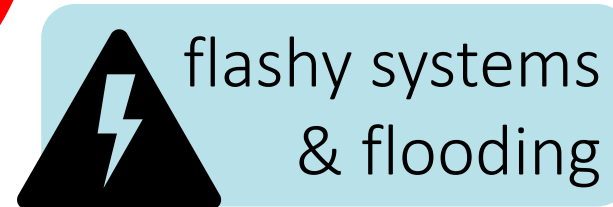


# ...and populations are still expanding

- ▶ 2020 Census: Worcester is fastest growing city in New England
- ▶ Watershed is in the sprawl frontier ([Losing Ground](#))
- ▶ Population gains throughout urban and rural

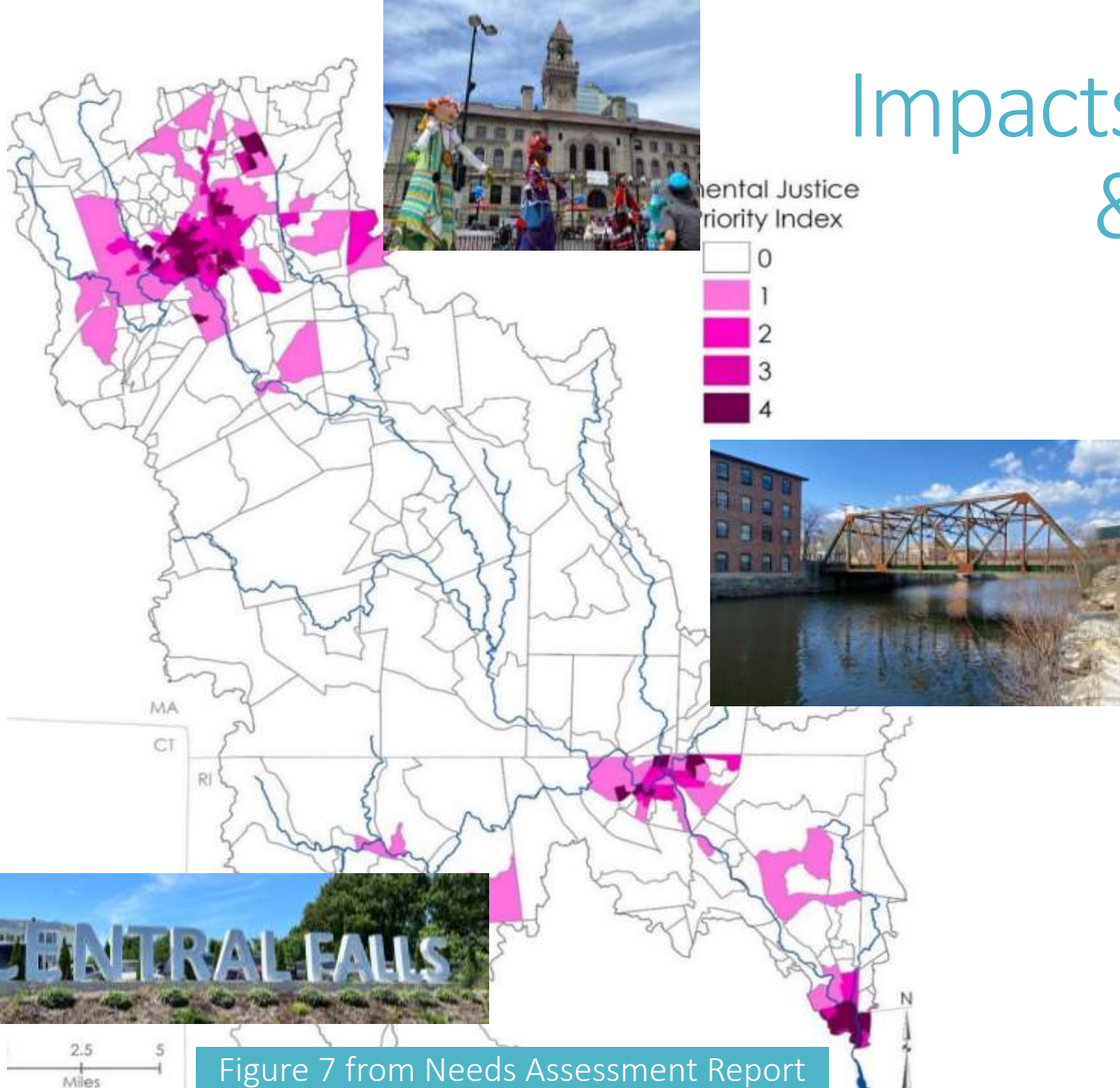


# Healthy communities depend on a healthy watershed



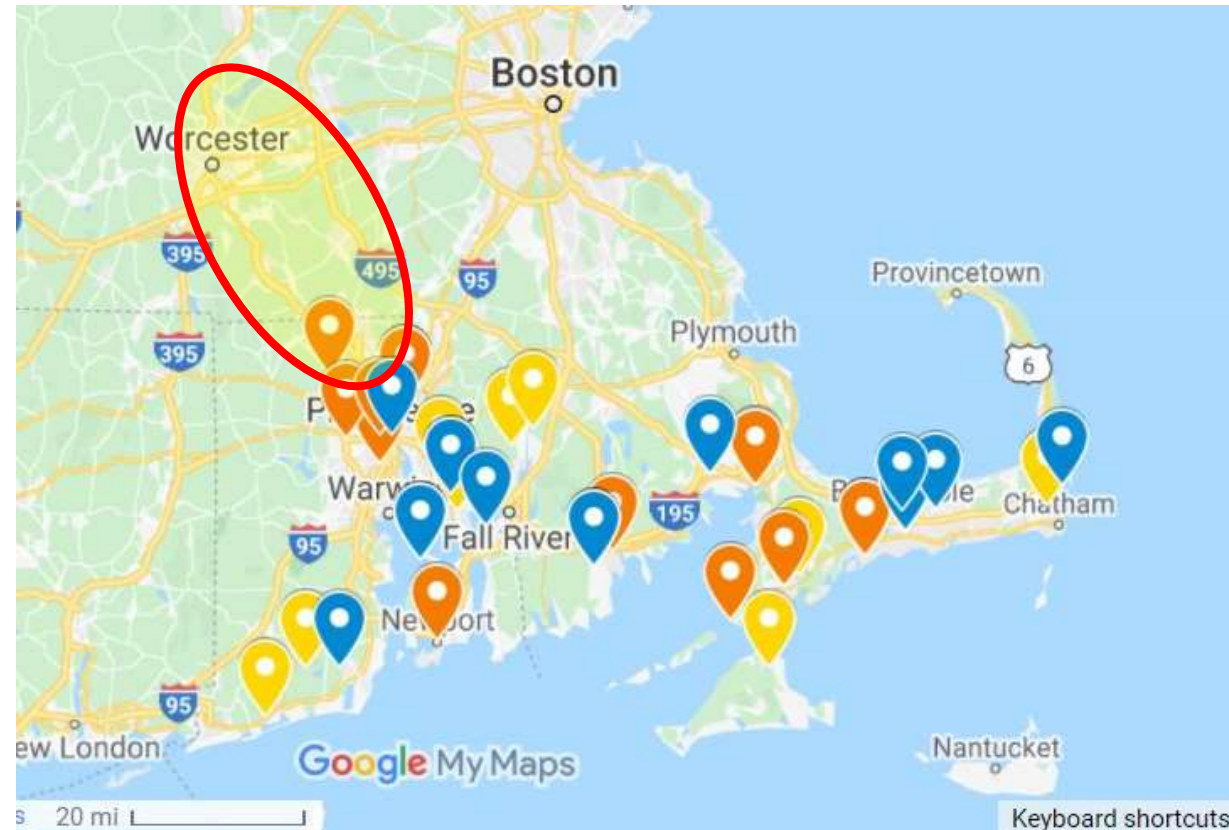


# Impacts are compounded & not felt equitably

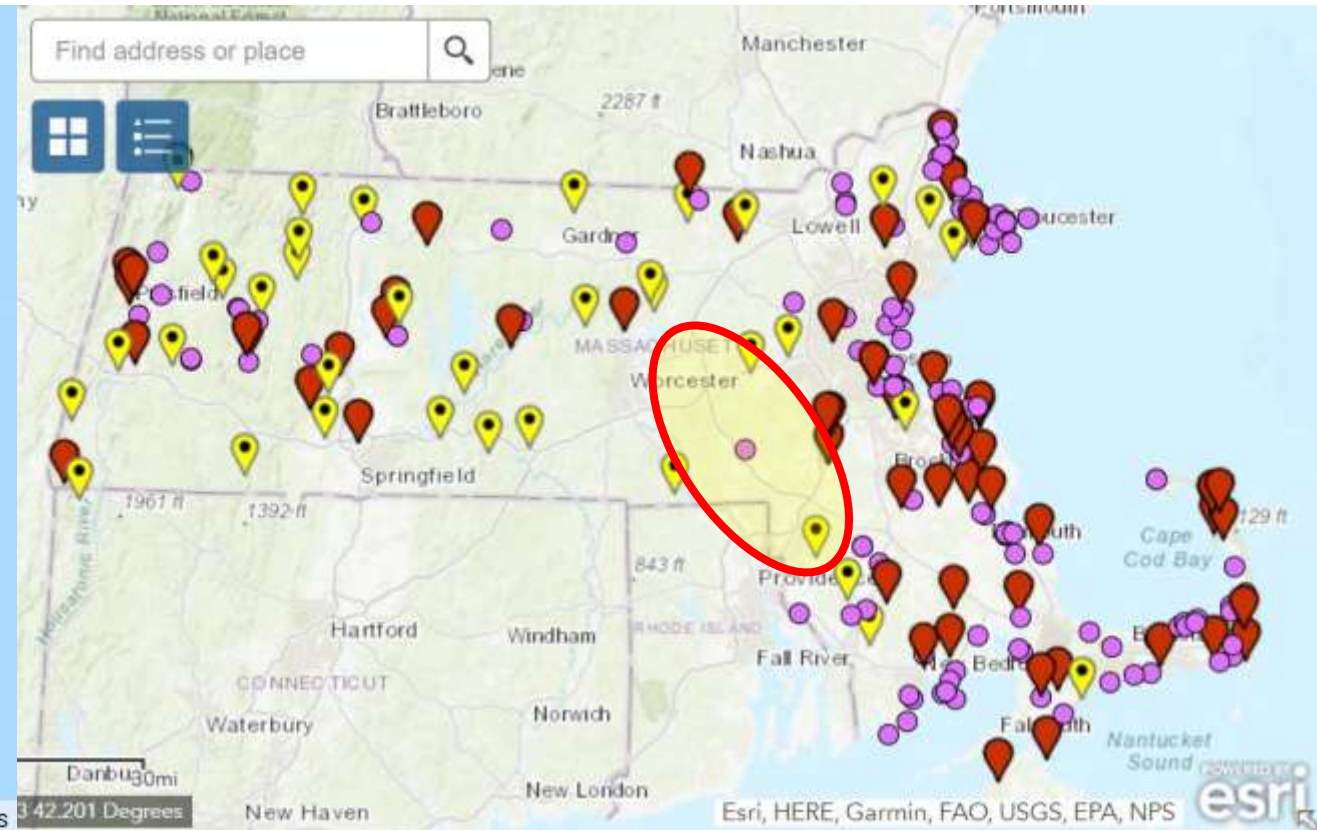


- ▶ • Heat islands
- ▶ • Tree cover
- ▶ • Asthma rates
- ▶ • Flooding impacts
- ▶ • Water quality

# Historic lack of participation/representation in funding and projects

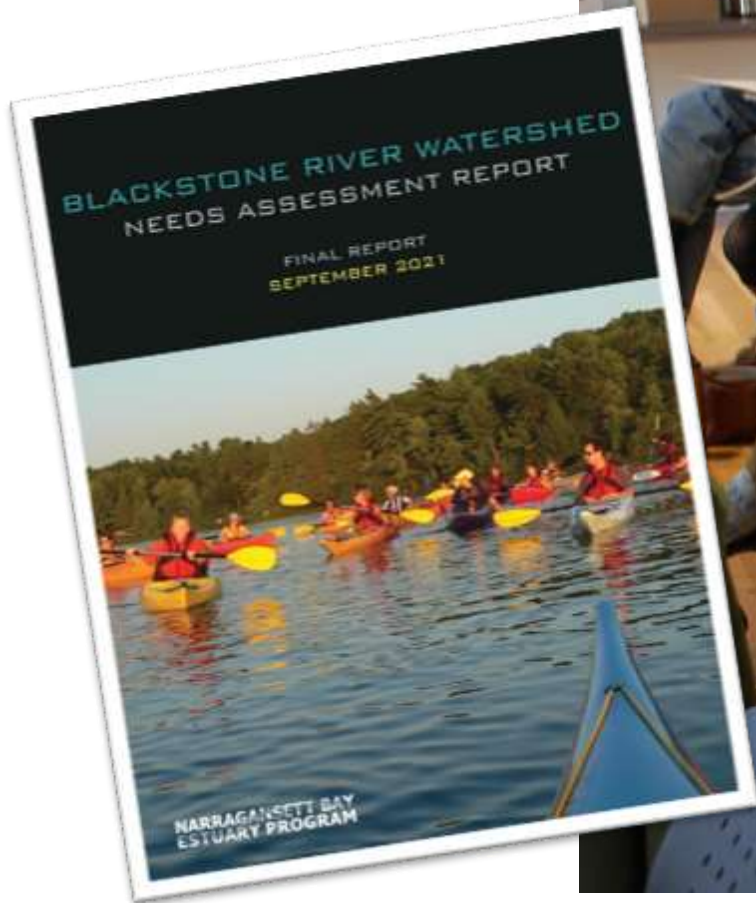


<https://estuaries.org/snepgrantprogram/map/>



<https://www.mass.gov/service-details/the-division-of-ecological-restoration-project-map>

“How can we help?”



## NARRAGANSETT BAY ESTUARY PROGRAM

- 2 years
- 8 meetings
- 140 people
- 40 organizations
- 11 govt agencies

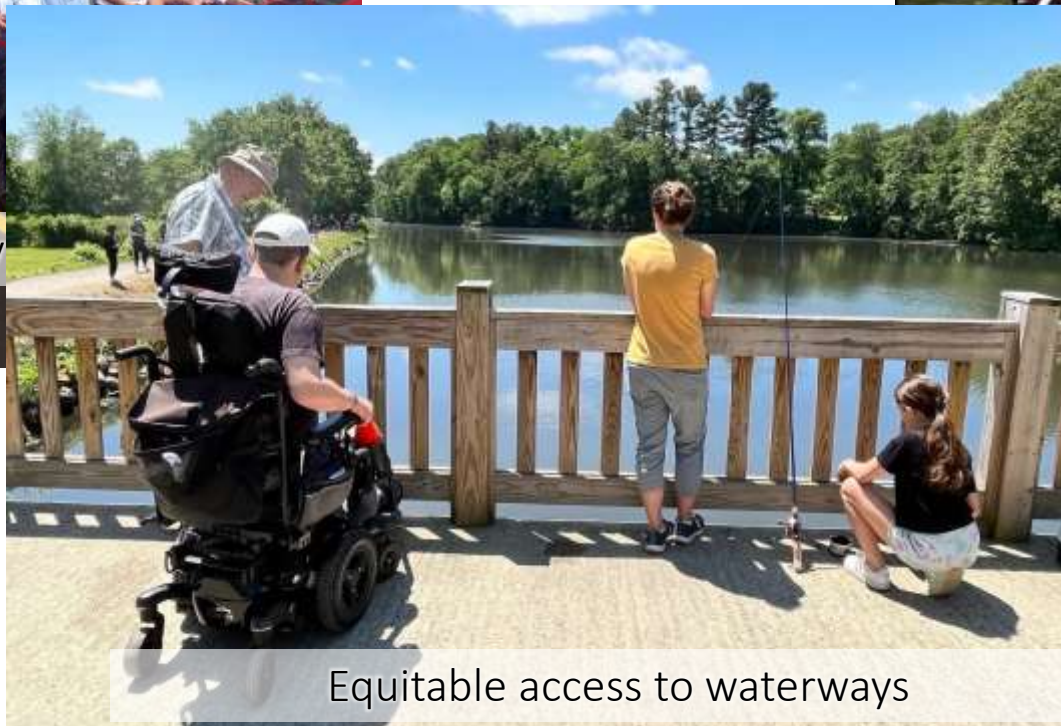
# A Shared Watershed with Shared Goals



Expanding the bike/greenway



Water chestnut management



Equitable access to waterways

# A Shared Watershed with Shared Goals



Green jobs program for maintenance



Maximizing effectiveness of long-term monitoring programs



Culvert replacement

# Working together to achieve more



Blackstone Canal, looking toward the Stanley Woolen Mill

- Fill in **capacity** gaps
- **Prioritize** projects
- Provide technical **assistance**
- Regional **funding** & grant mgmt
- Unified **messaging**
- **Centralized** place to meet & share
- Celebrating **successes**

# Blackstone Commons

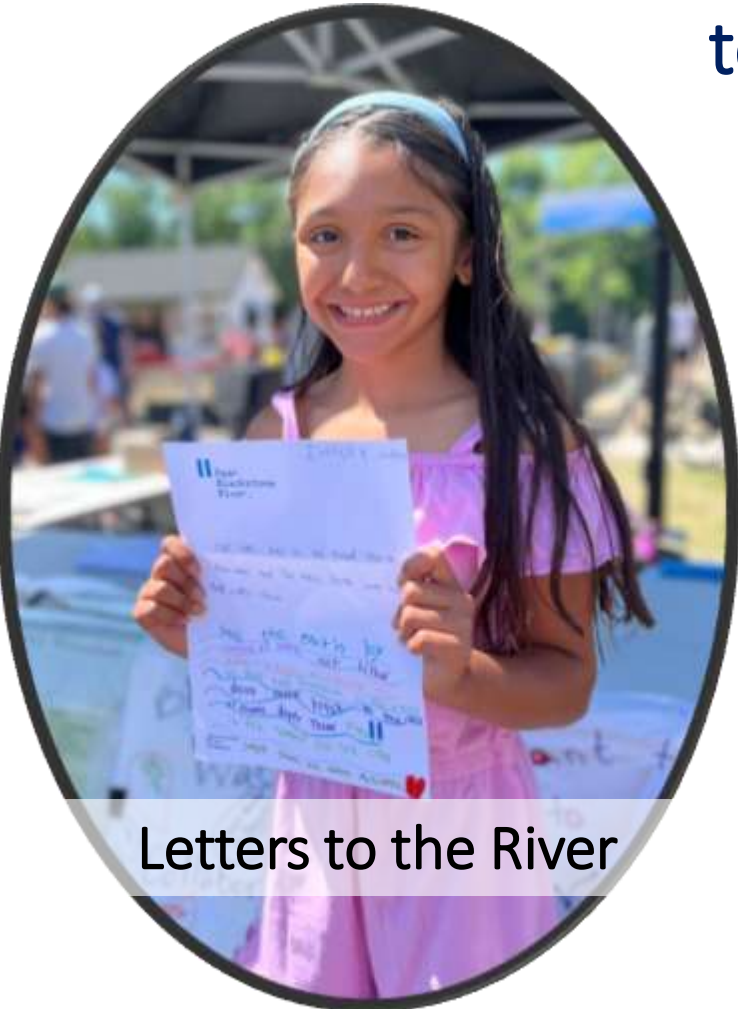
The Blackstone River is a commons - a resource shared by the community, to be kept open and protected for future generations.



BLACKSTONE RIVER  
WATERSHED COUNCIL  
Friends of the Blackstone



16



Letters to the River



Paddle: August 11-14, 2022

# Representing our watershed

▶ CMRPC [Imagine 2050](#) Steering Committee



▶ [MassECAN](#) Nature Based Solutions



▶ MA Statewide [Climate Change Assessment](#) Working Group

▶ [NBEP](#) Steering Committee

**NARRAGANSETT BAY  
ESTUARY PROGRAM**







- Started 2014
- Formed after grant brought groups together
- 42 muni & 560 sq mi
- Hosted by RPA
- Meets monthly
- 0-1 staff
- Comprised of NGO, muni, FP
- No formal board



- Started 2018
- Formed when munis needed to work x-boundary
- 21 munis & 76 sq mi
- 600,000 people
- Hosted by NGO
- Several FT staff
- Munis only
- Formal structure



- Started 2021
- Formed after Report ID'ed minimal capacity
- 39 munis & 475 sq mi (2 states)
- Hosted by uni
- 1 FT staff
- 100+ partners
- No formal structure

[blackstonecollaborative.org](http://blackstonecollaborative.org)

Thank you!

Stefanie Covino  
Blackstone Watershed Collaborative  
Program Manager/Research Scientist  
[scovino@clarku.edu](mailto:scovino@clarku.edu)



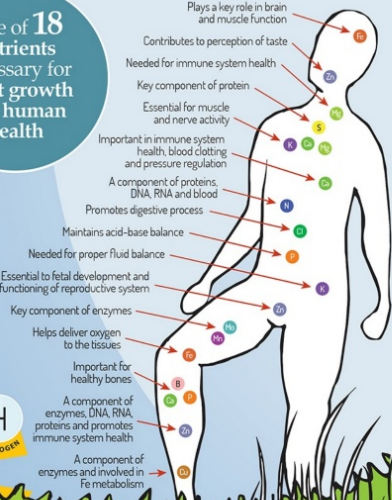
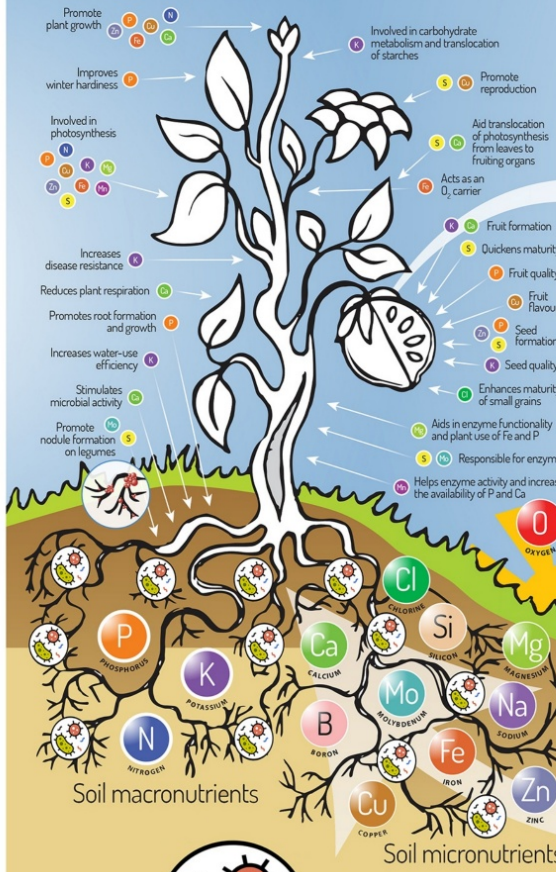




# Soil the foundation of nutrition

## Between Plants & Humans

Role of 18 nutrients necessary for plant growth and human health

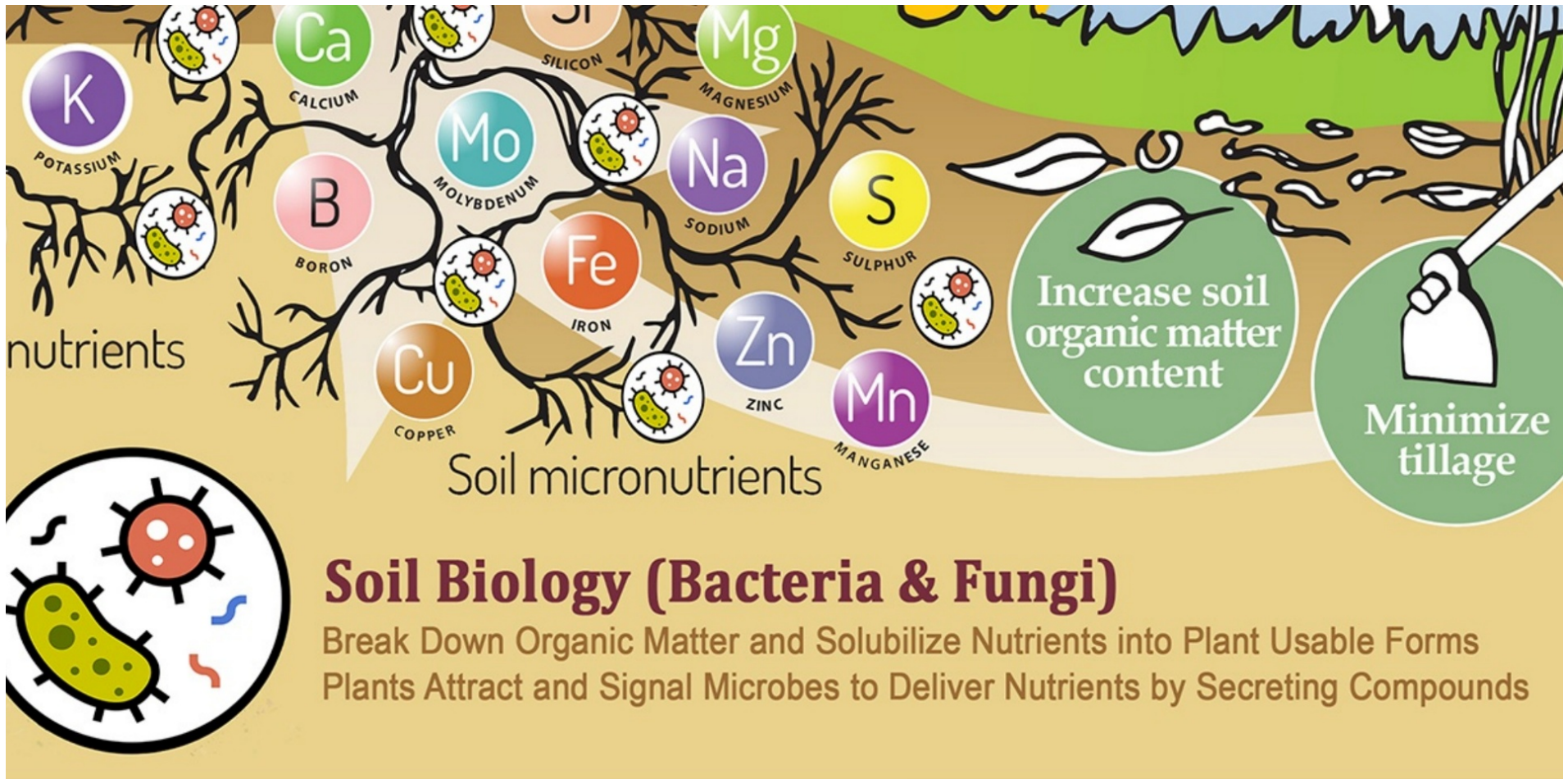


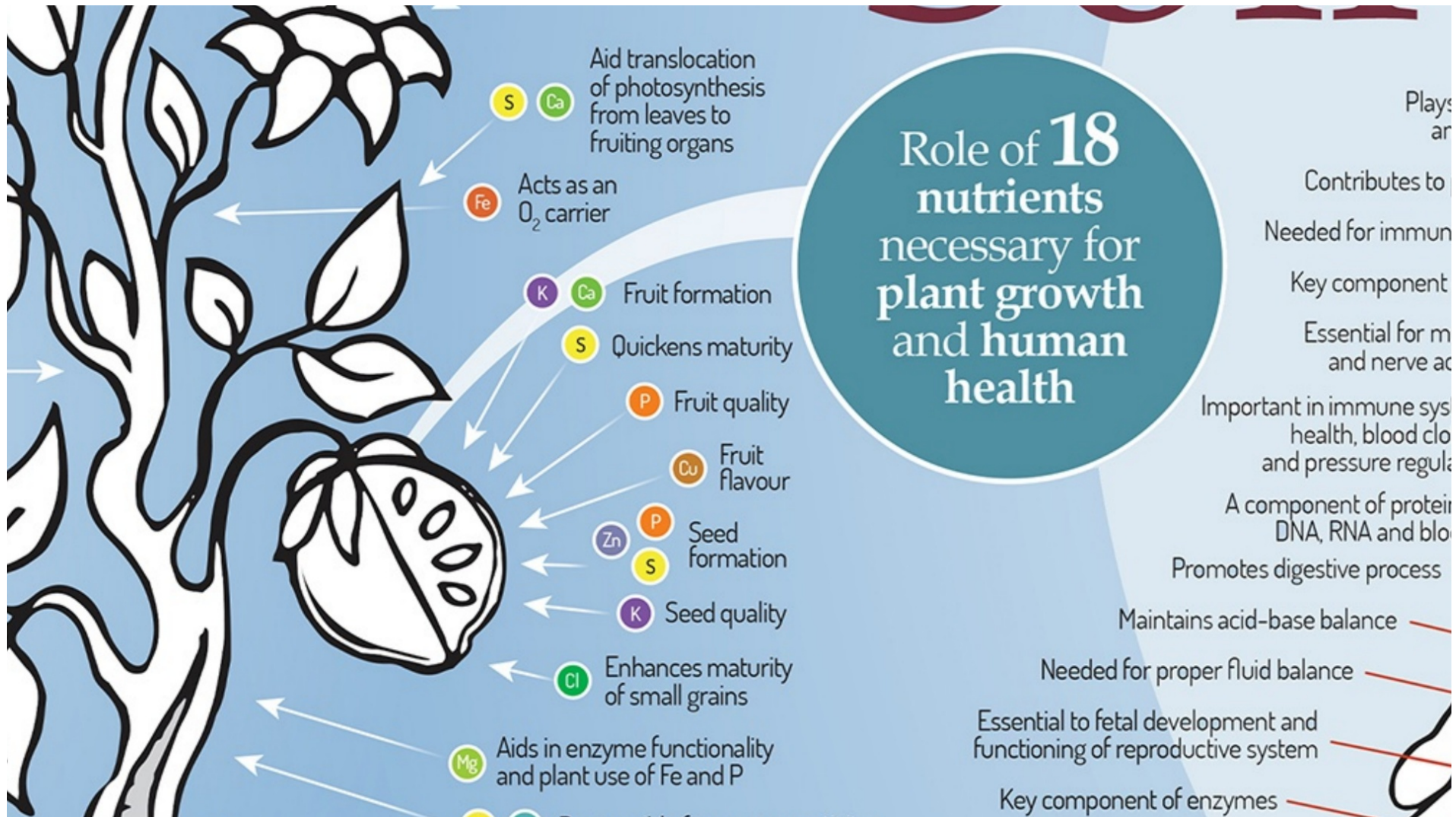
Sustainable soil management for healthy soils, healthy food and healthy people



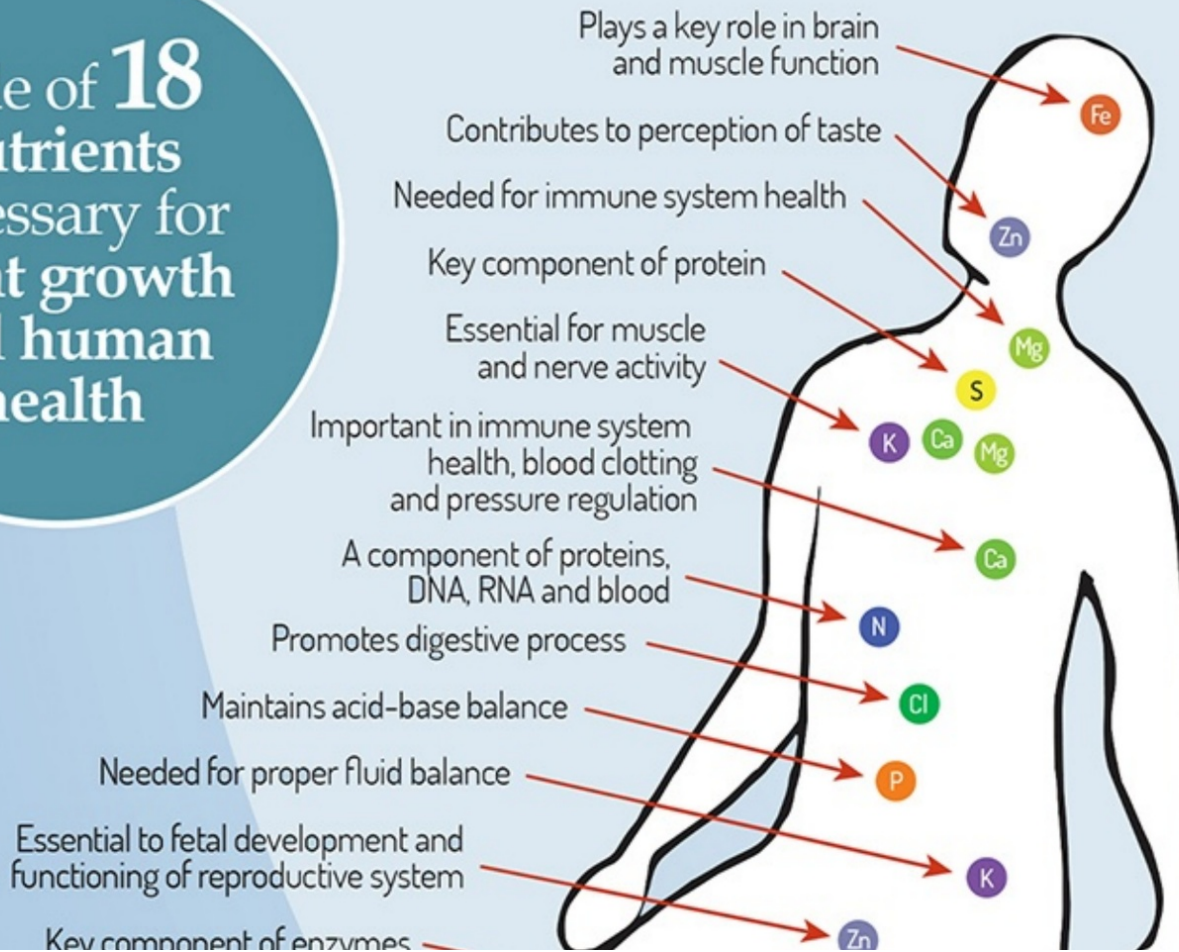
**Soil Biology (Bacteria & Fungi)**  
Break Down Organic Matter and Solubilize Nutrients into Plant Usable Forms  
Plants Attract and Signal Microbes to Deliver Nutrients by Secreting Compounds







Role of **18** nutrients necessary for plant growth and human health



Between  
Plant  
& Hu




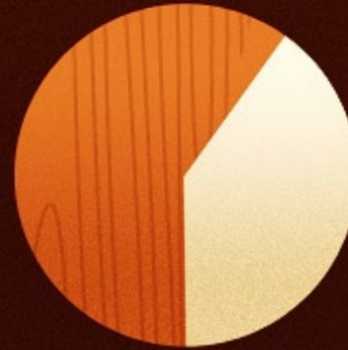


EACH YEAR, THE AVERAGE  
U.S. HOUSEHOLD GENERATES



..... 650 LBS.....  
OF COMPOSTABLE MATERIALS

 = 65 LBS



**OVER**  
**60%**  
OF WHAT WE PUT  
IN OUR  
LANDFILLS IS  
**ORGANIC WASTE**

THIS COULD BE RECYCLED BY COMPOSTING:



FOOD SCRAPS



YARD TRIMMINGS



PAPER

IN 2011,  
COMPOSTING AND  
RECYCLING HAVE  
PREVENTED

**86.9**  
MILLION  
TONS

OF MATERIAL  
FROM BEING  
DISPOSED.


THIS IS UP FROM  
15 MILLION TONS  
IN 1980.



COMPOSTING  
ALSO PREVENTED  
THE RELEASE OF

**183**  
MILLION  
TONS

OF CARBON  
DIOXIDE  
INTO THE  
AIR.

 = 10.16 MILLION  
TONS OF CO<sub>2</sub>



THAT'S EQUIVALENT TO **34** MILLION  
CARS



TAKEN OFF THE ROAD FOR ONE YEAR.

 = 1 MILLION CARS



**KEEP SOIL COVERED**



**MAINTAIN LIVING ROOT YEAR ROUND**



**MINIMIZE SOIL DISTURBANCE**

**REGENERATIVE AGRICULTURE**



**INTEGRATE LIVESTOCK**



**MAXIMIZE CROP DIVERSITY**

1346337711





# The 1-2-3 Punch

## Knocking Out Our Pollinators



# 1 PESTICIDES



In 2000, LESS THAN **5%** OF SOYBEAN ACRES and LESS THAN **30%** OF CORN ACRES were treated with a PESTICIDE.

TODAY **80%** of Soybean and **40%** of Corn ARE TREATED

Even Sub-lethal doses of PESTICIDES can affect foraging and nesting behaviors, often preventing pollination

Between 2008 and 2013 BEE ABUNDANCE declined about **23%**



WHAT'S THE IMPACT? It takes about **1,875** FLOWER VISITS to raise one mason bee.



# 2 HABITAT LOSS



HERBICIDES also kill plants that pollinators use for forage

# 3 PESTS & DISEASE



The VARROA MITE which was introduced from **RUSSIA** has been DEVASTATING AMERICAN HONEY BEE HIVES since the 1980s



Varroa mites weaken bees by **SUCKING THEIR BLOOD** and **PASSING DISEASES**

Varroa mites **CRIPPLE ADULTS** and **KILL LARVAE**, causing the colony or population **TO COLLAPSE.**







## Gardens that Benefit Wildlife and People

Native plants, eco-friendly gardening practices provide natural sources of the four elements of habitat:

Oaks support over 500 species of butterflies and moths and feed and shelter other wildlife.



food



water





cover



raising young

National Wildlife Federation's Certified Wildlife Habitats® include these elements and can support 2X the amount of wildlife.

Songbird babies rely on thousands of caterpillars and other insects supplied by native plants. 

Roughly 30% of native bee species are pollen specialists that restrict their diets to specific native plants. 

**Conventional**  
1 million acres  
suburban deve

The monarch butte  
native milkweed, l

Lawns use 9 billion  
nationwide per da


**and People**  
ing practices  
r elements of habitat:



ing young

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Roughly 30% of native  
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their diets to specific  
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**Conventional Landscapes**  
1 million acres of wildlife habitat are lost to  
suburban development annually.

The monarch butterfly, which relies on  
native milkweed, has declined by 90%.

Lawns use 9 billion gallons of water  
nationwide per day.

*Non-native trees  
and turf lawns don't  
support wildlife.*



**ECOSYSTEMS** are like amazing  
"MACHINES" that work better when  
you add more parts (species)!

The more **BIODIVERSITY**  
an ecosystem has, the more stable and  
productive it is.

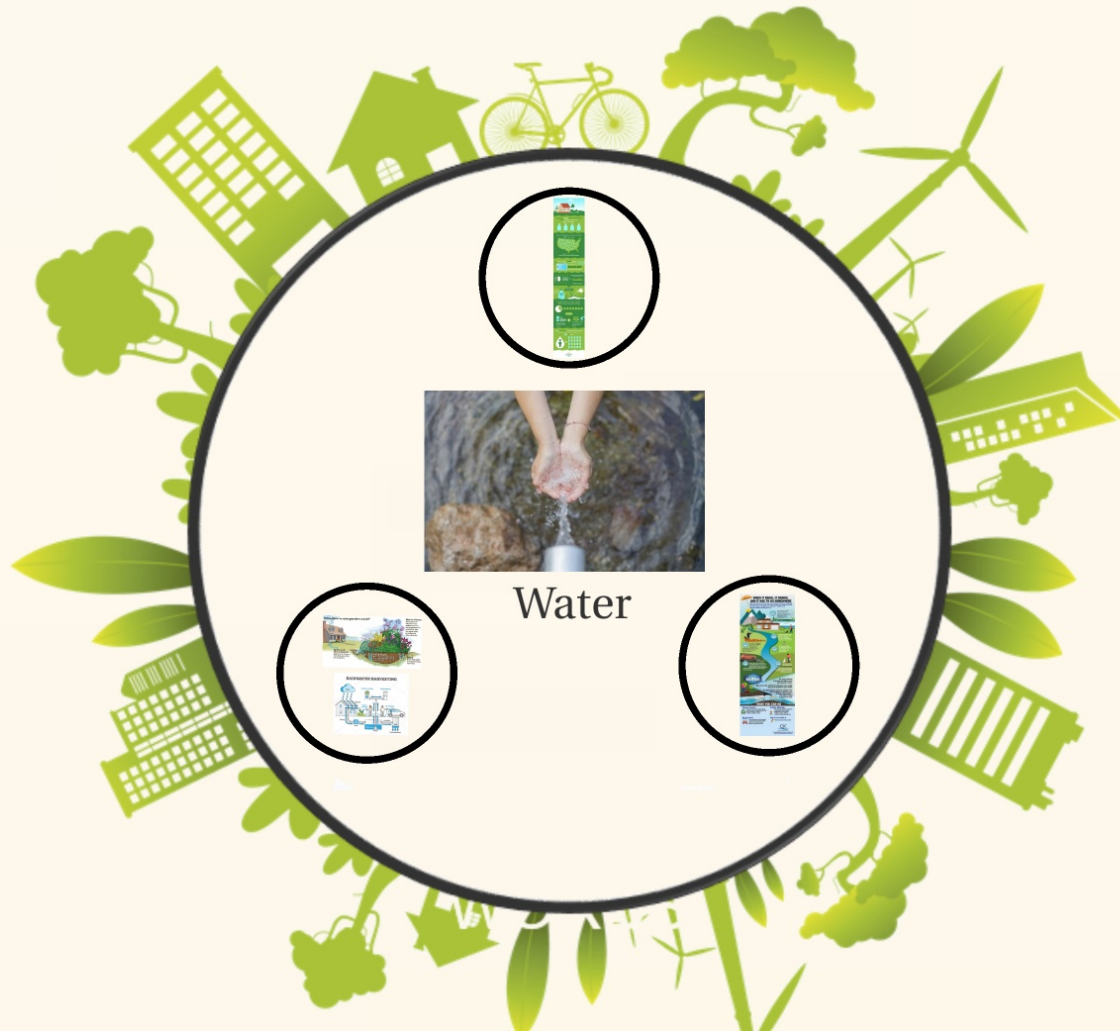
This is what provides the  
**ECOSYSTEM SERVICES**  
WE ALL NEED TO SURVIVE  
(clean air, clean water, pollination, etc.).

**PLANTING NATIVE  
REGENERATES BIODIVERSITY**

We all depend on it!









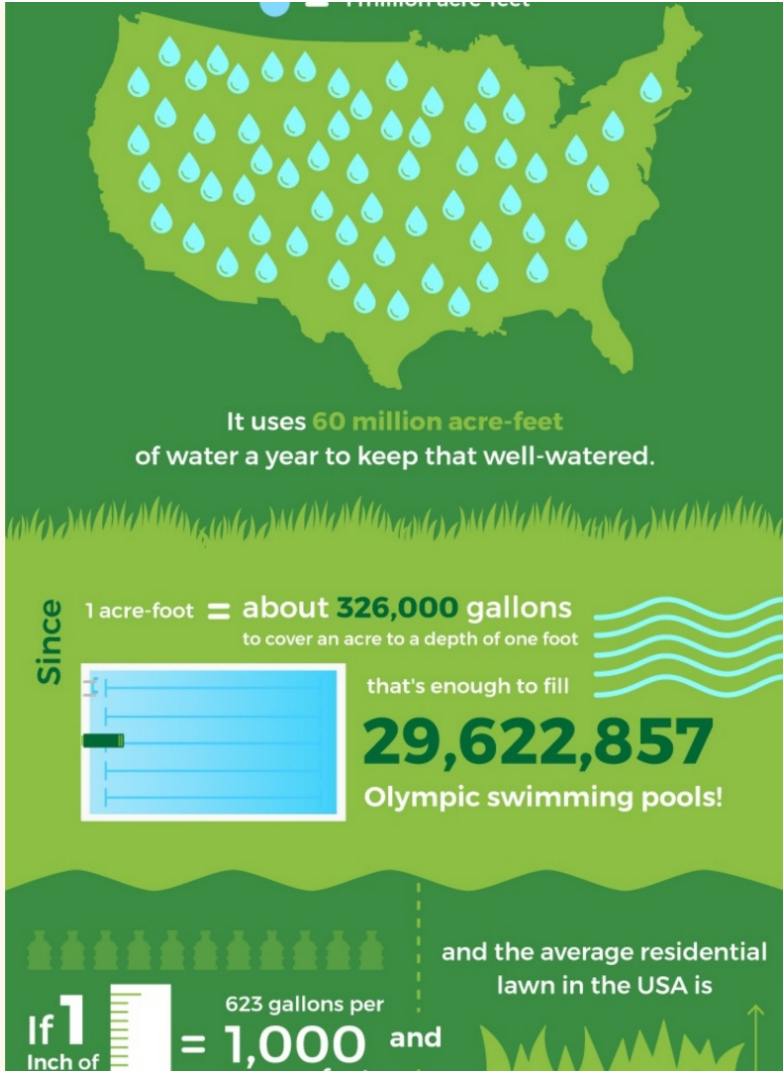
The USA uses **3.9 trillion gallons of water per month**  
or about **322 billion gallons per day.**

 = 1 Trillion Gallon



There are 40 to 50 million acres of lawn in the USA.

The image features a central green lawn area with a house and trees in the background. The text is centered on the lawn. A legend shows a small white water bottle icon followed by an equals sign and the text '1 Trillion Gallon'. Below this, four larger cyan water bottle icons are arranged in a row. The bottom of the lawn area contains the text 'There are 40 to 50 million acres of lawn in the USA.'







constantly for 4 days or  
taking more than 800  
showers

take 1 year's worth of  
showers.

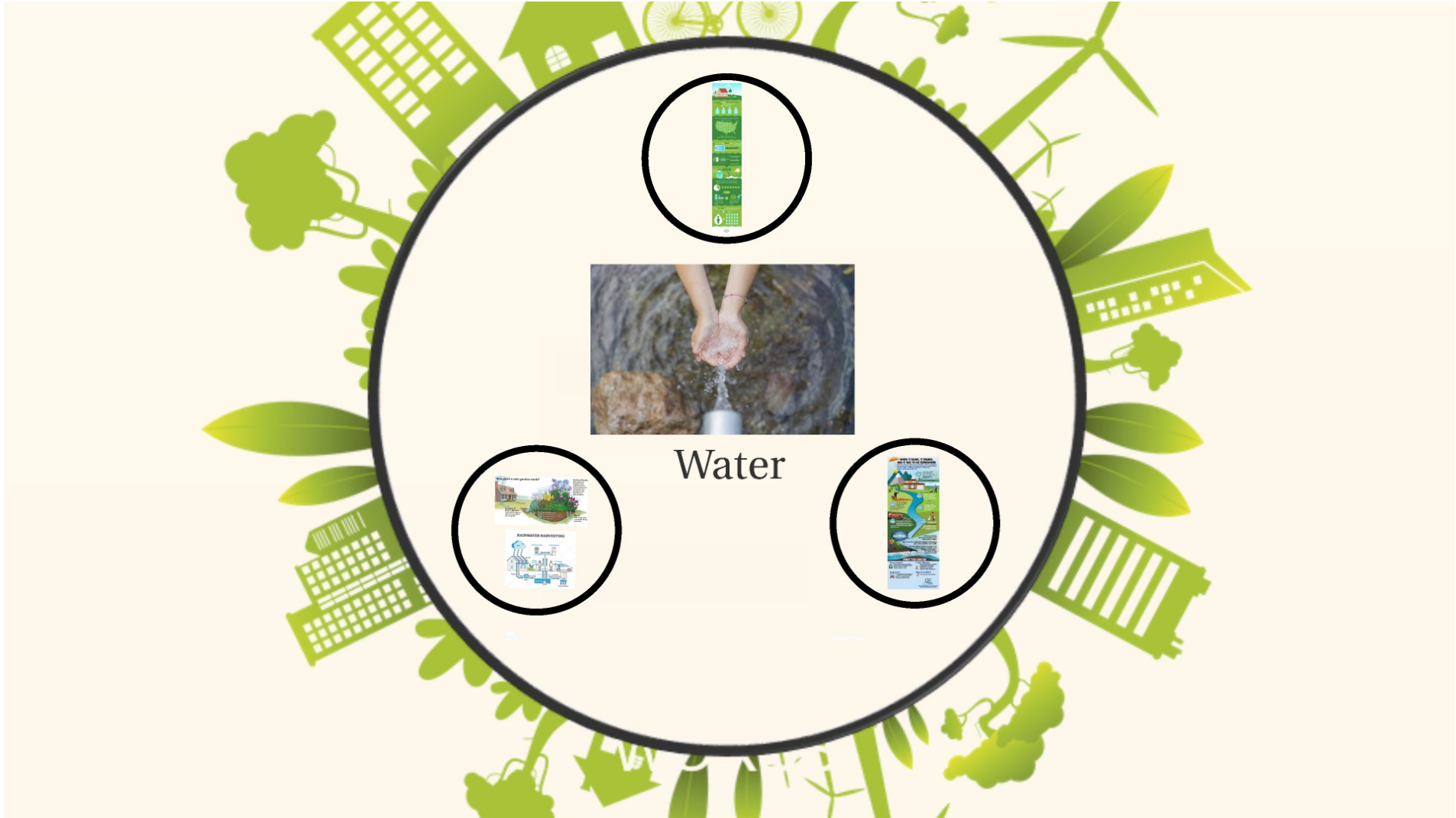
About **200 gallons** of water per person, per day  
needed to maintain our nation's lawn surface for one year.

 = **10 gallons**



=





# AND IT HAS TO GO SOMEWHERE

Water from inside our homes goes to a wastewater facility for purification. But water from roofs, streets, and outdoor spigots goes untreated directly into storm drains – straight to our waterways – picking up all kinds of contaminants along the way!

**DID YOU KNOW**

Excess nutrients, specifically nitrogen and phosphorus, pollute stormwater run-off from urban areas, contributing to the **third greatest cause of lake deterioration in the US.**

**DID YOU KNOW**

The amount of phosphorus in grass clippings from mowing your lawn just once can produce up to **100 lbs.** of unwanted algae if it ends up in our lakes and ponds.

**DID YOU KNOW**

Leaf “litter” and landscape trash accounts for **56%** of phosphorus in urban

Just one pound of fertilizer



mention clogging storm drains, causing potential flooding and increasing debris in our waterways.



**DID YOU KNOW** When you wash your car in the driveway, you're washing about **120 gallons** of grime-filled water downstream. The soap, together with the dirt, grease and grime flows untreated into nearby storm drains, which runs directly into lakes and streams.

**DID YOU KNOW** lawn can equate to **34.2 lbs.** of excess algae growth in streams and lakes.



**DID YOU KNOW** If dog owners don't clean up after their pooches, **390 million pounds** of poop can wash into our waterways every year just in Colorado! Dog waste contains 10% phosphates and 2% nitrates, contributing to algae growth.

## WHY IT MATTERS



**Too many nutrients in streams and lakes cause rapid growth of algae.**

**Algae looks bad, smells bad, degrades water quality and can be harmful to your health.**

**As algae decays, it uses up oxygen in the water, leading to a decline in our drinking water quality – and makes it more expensive to treat.**

# WHAT YOU CAN DO

## Dispose Properly



- Compost or bag your leaves and lawn clippings
- Don't blow leaves or lawn clippings into the street
- Sweep up any spills or overspray of fertilizers on sidewalks or streets

## Fertilize Efficiently



- Always follow the manufacturer's application recommendations. More isn't better!
- Fertilizing in the early fall promotes healthy root systems – leading to stronger, more resilient lawns and plants

## Be Car Smart



- Use a commercial car wash, where water is recycled and sent to treatment facilities
- Wash your car on the lawn or gravel
- Dump your soapy bucket in the sink

## Pick It Up & Pitch It



- Clean up dog waste and dispose properly

# CSC

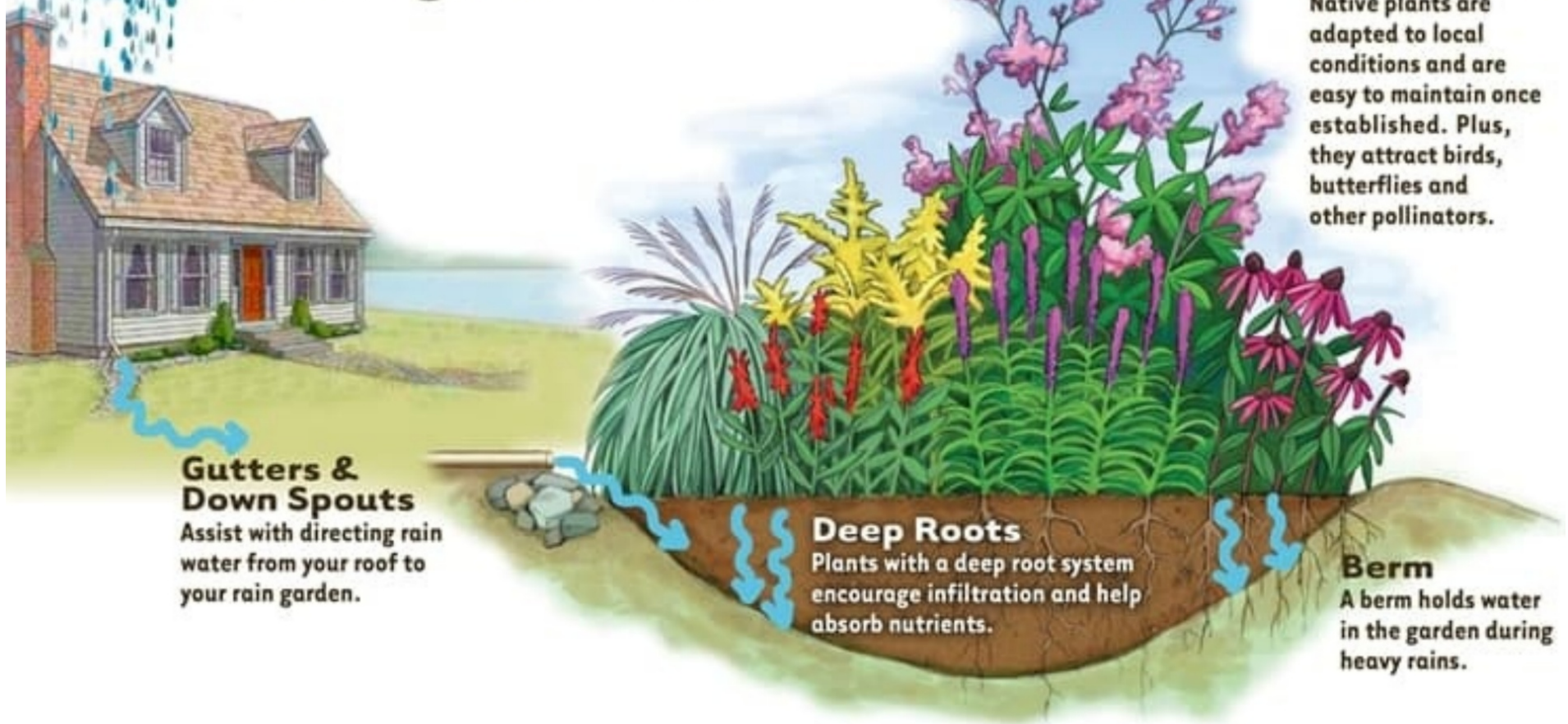


COLORADO STORMWATER COUNCIL

For more information and tips to preserve our waterways, visit  
[colorado-stormwater-council.org](http://colorado-stormwater-council.org)



## How does a rain garden work?



### Gutters & Down Spouts

Assist with directing rain water from your roof to your rain garden.

### Deep Roots

Plants with a deep root system encourage infiltration and help absorb nutrients.

### Berm

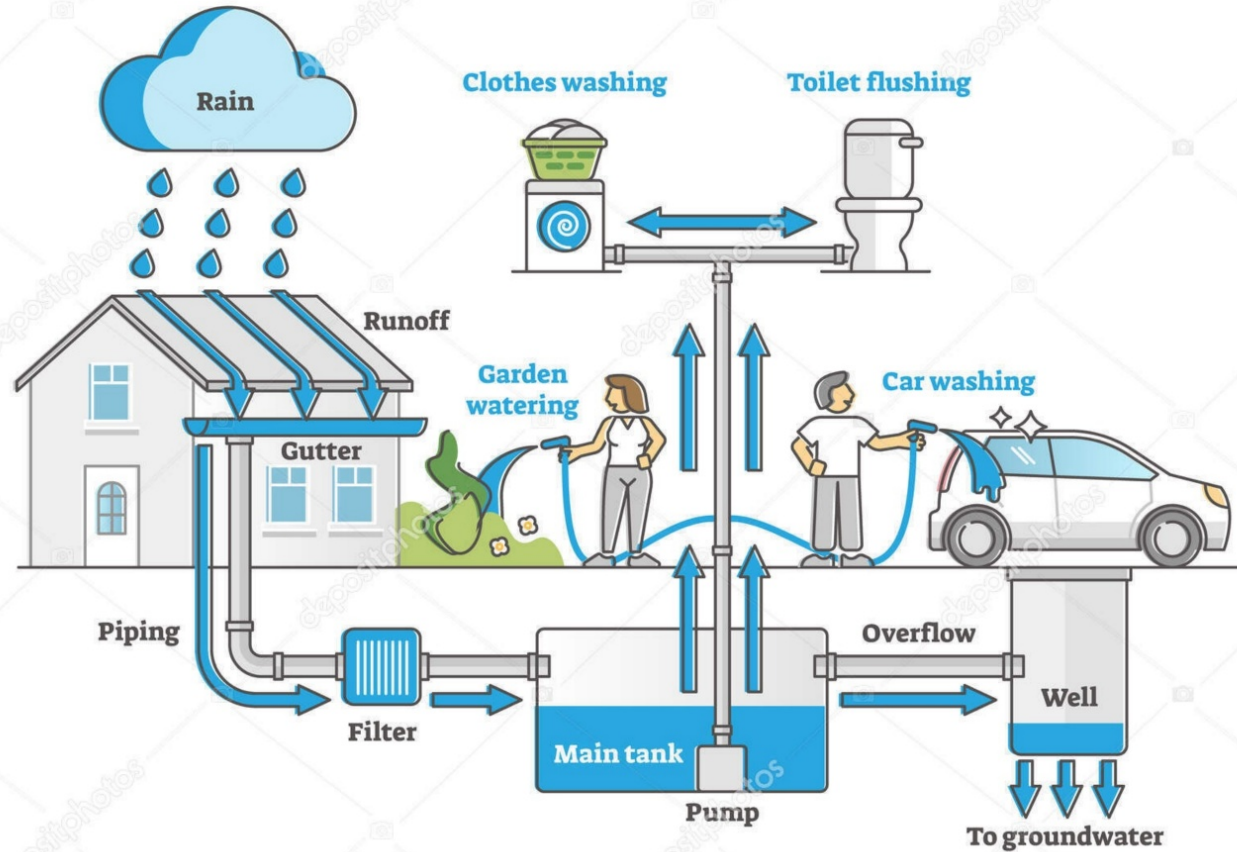
A berm holds water in the garden during heavy rains.

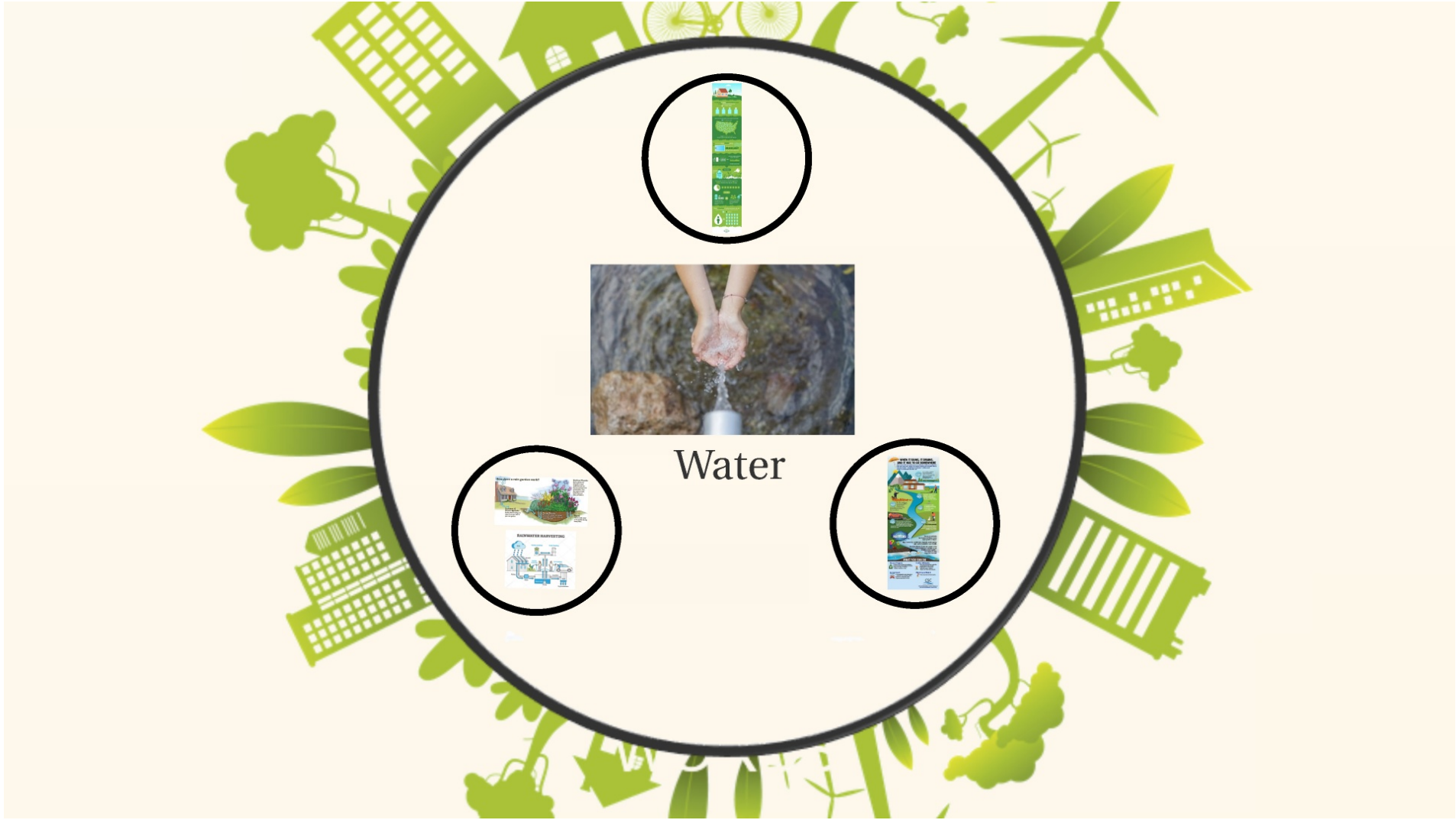
### Native Plants

Native plants are adapted to local conditions and are easy to maintain once established. Plus, they attract birds, butterflies and other pollinators.



# RAINWATER HARVESTING







# THE HEALTH BENEFITS OF GARDENING

## Stress Relief



Gardening can help reduce the level of stress hormone Cortisol

## Immunity Booster



Direct exposure to dirt and plants can help boost your immune system

## Work Out



3 hours of moderate gardening could equal a 1 hour gym session

## Bacteria Friends



Soil contains a natural antidepressant that can make us happier

## Green Diet



Those who grow veggies are more conscious about having a healthy diet

## Brain Health



One study revealed that daily gardening can reduce risk of dementia by 36%

CREATED BY  
**ORGANICLESSON.COM**

[ncbi.nlm.nih.gov/pubmed/20522508](https://ncbi.nlm.nih.gov/pubmed/20522508)  
[ncbi.nlm.nih.gov/pubmed/16411871](https://ncbi.nlm.nih.gov/pubmed/16411871)  
[calorieclub.com](http://calorieclub.com)  
[hortmag.com](http://hortmag.com)

# ORGANIC vs. non-ORGANIC

## ORGANIC

mimics nature

PROVIDES PLANT NUTRIENTS THROUGH HEALTHY SOIL

HEALTHY PLANTS PROVIDE HEALTH TO HUMANS



FOCUS ON "FINDING" NATURAL HEALTH IN WHOLE FOODS

SOLVES PROBLEMS WITHOUT VIOLATING NATURE



## NON-ORGANIC

attempts to "improve" nature

PROVIDES PLANT NUTRIENTS THROUGH CHEMICAL FERTILIZERS



HEALTHY FOOD IS SEEN AS NICE UNIFORM SHAPES & COLOURS

DEPENDS ON OVER-REFINING & PROCESSING



SOLVES PROBLEMS BY "FORMULAS"



#ALWAYSORGANIC





































# **homeharvest<sup>TM</sup>**

**Central MA**

EDIBLE LANDSCAPES & CONSTRUCTION

---

***Raised Beds***

***Masonry***

***Home Orchards***

***Carpentry***

***Food Gardens***

***Design***

***Flower Gardens***

***Education***

---

***HomeHarvestCentralMA.com***

***508-450-7179***



# DID YOU KNOW?

We have a Green Worcester Advisory Committee that:

- ✓ Is made up of 7 resident volunteers slots
- ✓ Advises the City on its sustainability & resiliency initiatives
- ✓ Conducts outreach & advocates for a greener city

We are currently looking for a District 3 representative, are you interested?  
Swipe for more information!



**GREEN  
WORCESTER**

Community | Resilience | Sustainability

# APPLY TO SERVE ON THE COMMITTEE!

- ✓ Attend meetings every 4-6 weeks from 5:30-7:30pm on Mondays
- ✓ Help Worcester be a more sustainable & resilient city
- ✓ Learn about city and community projects

APPLY TODAY:  
[WORCESTERMA.GOV/BOARDS-COMMISSIONS](http://WORCESTERMA.GOV/BOARDS-COMMISSIONS)



**GREEN  
WORCESTER**

Community | Resilience | Sustainability



## **Worcester Congregations for Climate & Environmental Justice Summer Surge 2022**

6 - 8 PM, Wednesday, June 29

First Unitarian Church, 90 Main Street, Worcester, MA 01608

Worcester Congregations for Climate & Environmental Justice, [UU Mass Action](#), and [Massachusetts Interfaith Power & Light](#) invite you to a potluck, training, and information session on Wednesday evening, June 29!

- Meet and break bread with other people of faith concerned about climate and environmental justice
- Ground your activism in your faith and spirituality
- Hear about faith-based efforts in the Worcester area to advance climate and environmental justice priorities
- Learn practical techniques to grow your numbers, expand your influence, and advocate effectively for change
- Find out how you can help pass crucial bills before the Massachusetts legislative session ends on July 31

Weather permitting we'll gather outdoors. If it rains we'll move inside the church while observing Covid protocols (masks). You may join either in person or by Zoom livestream. Childcare and interpretation are available with prior request.

Parking is available at the church. Enter the lots from State Street, first right past the front of the church.

For more information email [david.coyne121@gmail.com](mailto:david.coyne121@gmail.com).

**Please register in advance [here](#).** And help spread the word!

Blessings,

Fred

Rev. Fred Small  
Director of Faith Action  
[Massachusetts Interfaith Power & Light](#)  
he/him/his