Effective Community Advocacy 101 in the age of climate change

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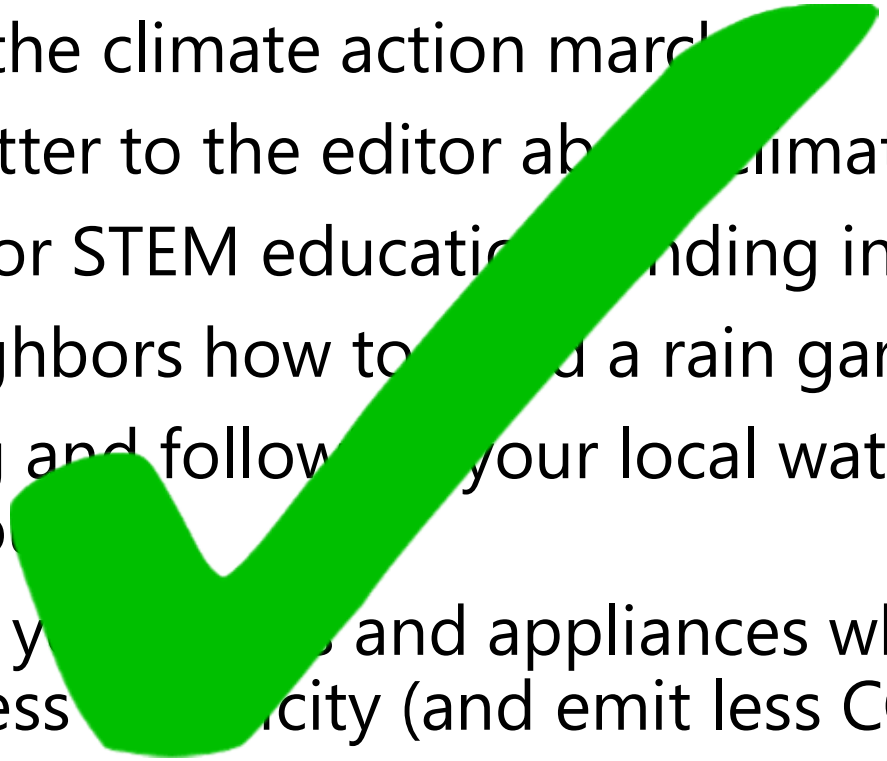
What is advocacy?

- ❑ Attending the climate action marc
- ❑Writing a letter to the editor ab limate policy
- ❑ Lobbying for STEM educati nding in schools
- ❑ Telling neighbors how to d a rain garden
- ❑ Supporting and follow your local water ban during a dro
- ❑ Turning off y and appliances when not in use to use less city (and emit less CO_2)



What's the difference?

Land use, planning, conservation

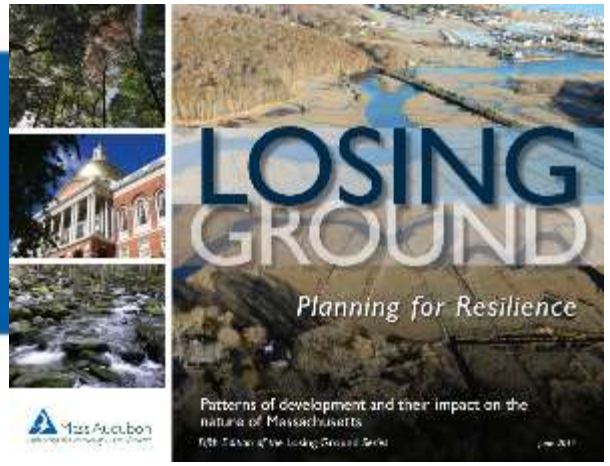
(AKA…someone thought ahead and advocated for a certain use)

What's the difference?

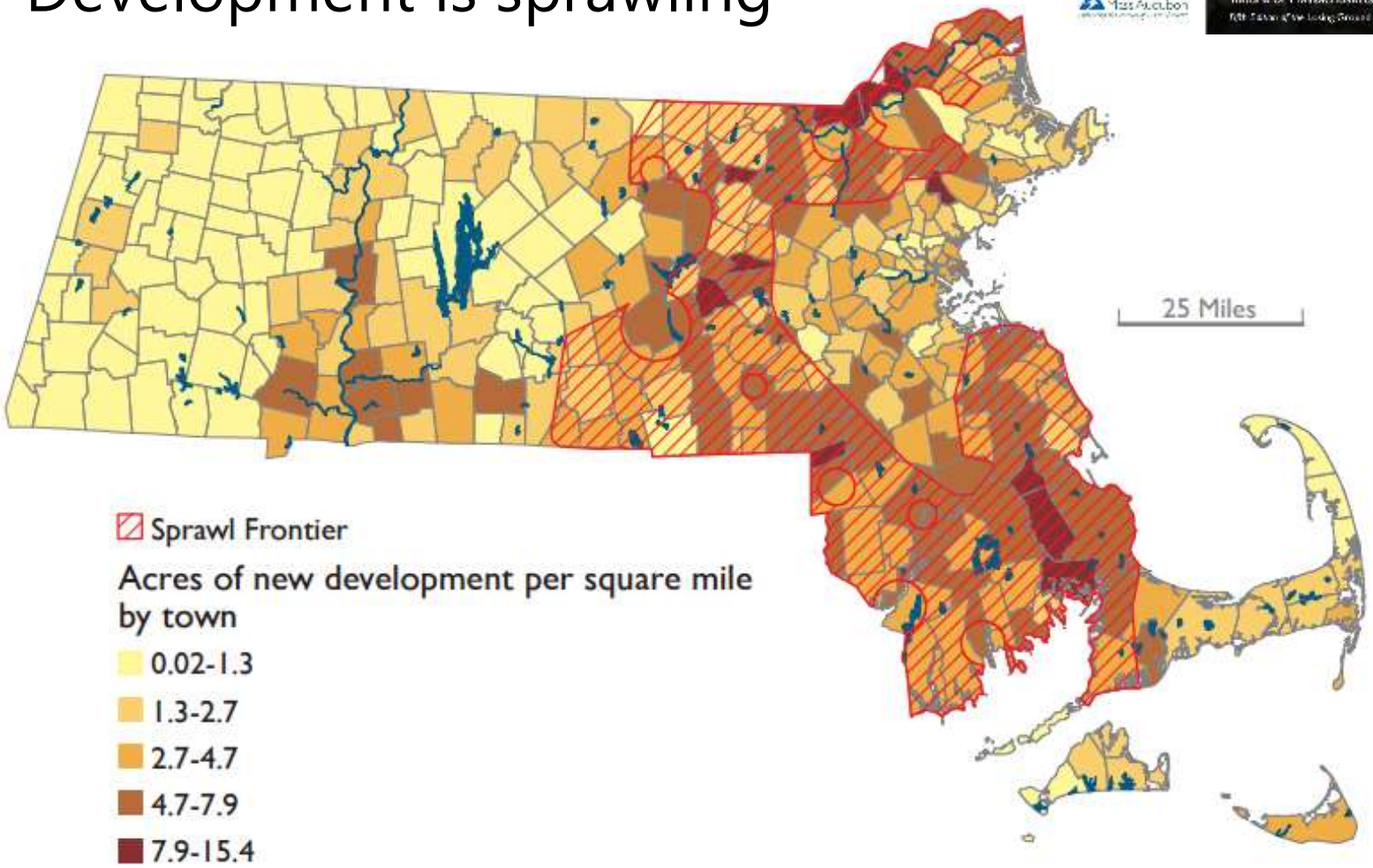
Land use, planning, conservation

(or not)

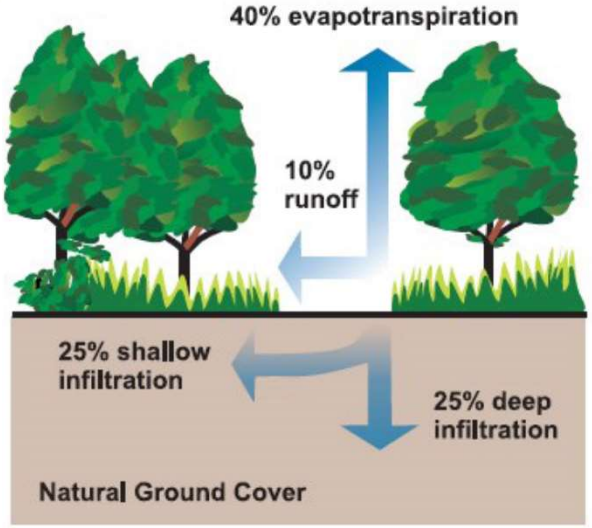
What's the Problem?

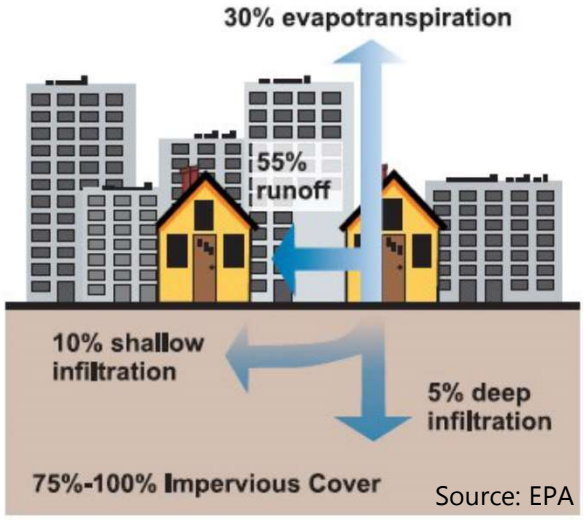


Development is sprawling



What's the problem?

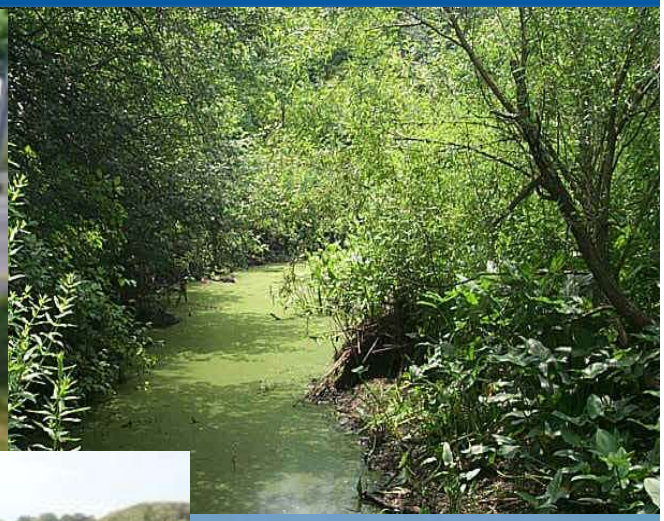




Source: EPA

Impervious surface → **Runoff**

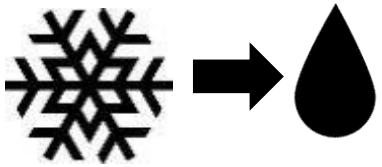
Impacts: dry rivers, flooding, algae blooms, beach closures



Key Observed Climate Changes in MA

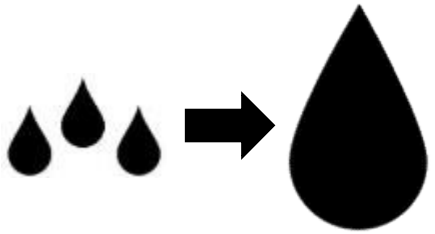
Temperature: **2.8°F**
Since 1895

Growing Season: **10 Days**
Since 1950



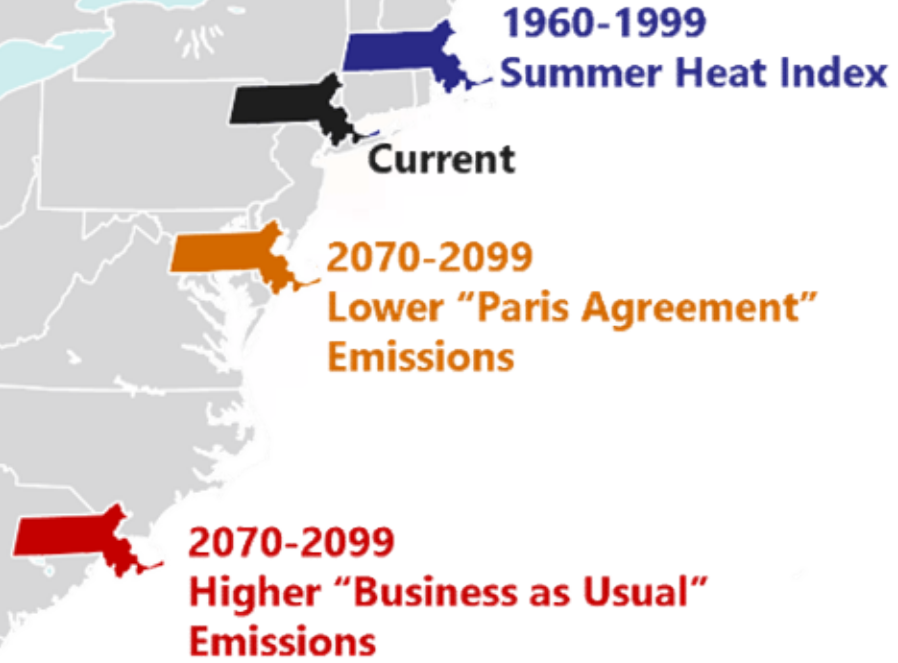
Sea Level Rise: **10 inches**
Since 1922

Strong Storms: **71%**
Since 1958

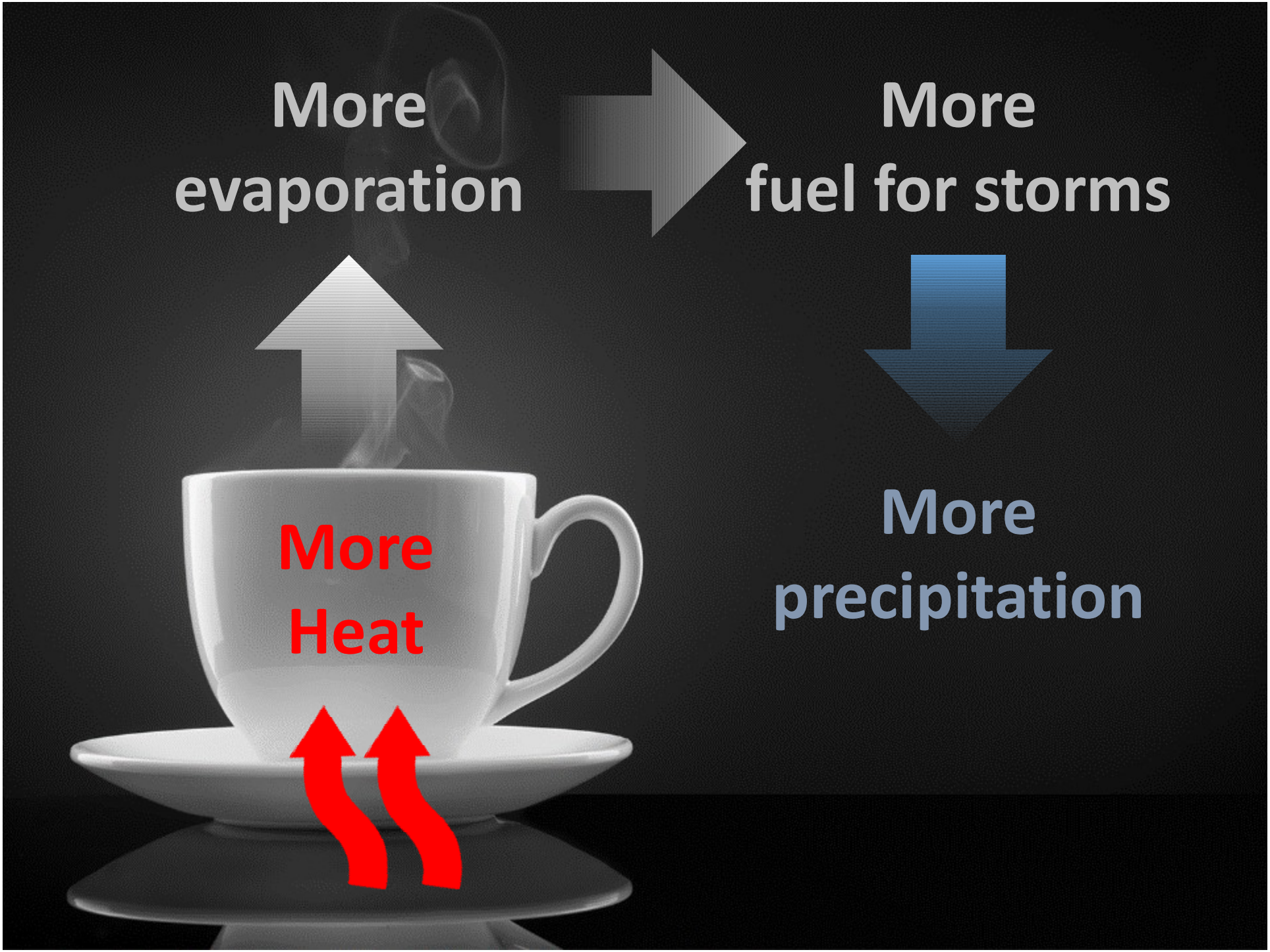


Migrating Massachusetts

By the end of the century, summers in Massachusetts will "feel" more like summers in the South.



How Summer Temperatures Will Feel Depending on Future Greenhouse Gas Emissions


More evaporation
More fuel for storms
More precipitation
More Heat

More Precipitation

Total annual precipitation has increased by:

15%

***1.2 trillion more gallons* of water or equivalent snow falling on Massachusetts each year.**

~9,700 filled Prudential Towers

Changes are calculated from a linear regression of annual totals from 1895-2015, 1901-2000 reference period.

Source: NOAA

Future Expectations

Annual precipitation likely to increase

Extreme precipitation more likely

Outdated assessments do not capture continual change

Sea level rise will drive greater flood risk

Storms + Temps = Algal Blooms

West Monponsett Pond, Halifax, Massachusetts

Stronger Storms → More Runoff → Greater Nutrient Loading

Warmer Lake Temperatures → Changed Lake Dynamics → Algal Blooms, Fish Kills

We need to change course

Traditional development

Impervious surfaces

Large, thirsty, fertilized lawns

Stormwater runoff

Water quality impairments

Groundwater depletion

Infrastructure impacts

Financial and regulatory burdens

...especially in the face of climate change

climate change

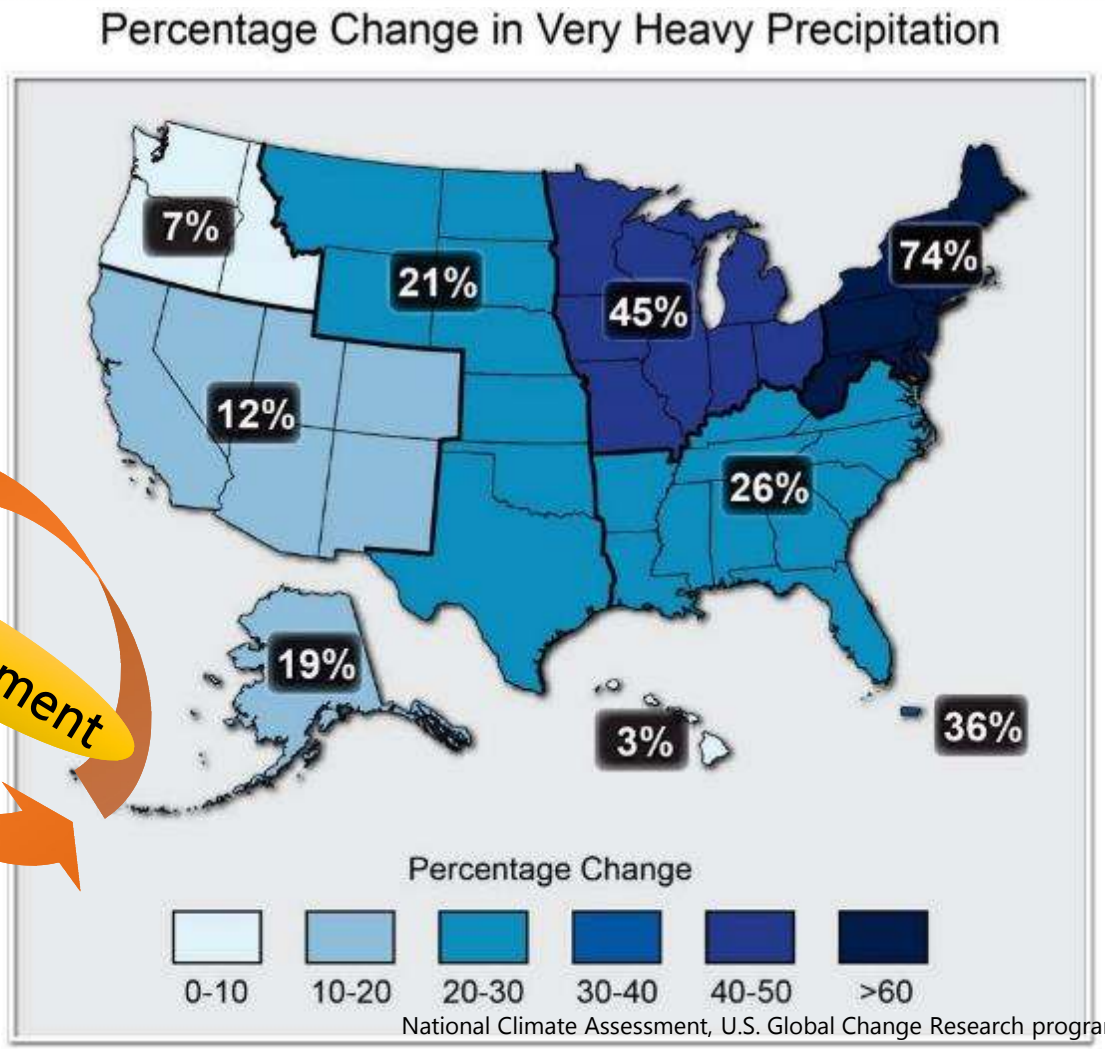
increased precipitation

increased stormwater

increased flooding

infrastructure damage

development



National Climate Assessment, U.S. Global Change Research program

..but only if we understand there's a problem

- MA has "home rule" with 351 communities making local decisions
- Boards and commissions are often well-intentioned volunteers
- Aren't always focused on or have the expertise in

That also means…

We have an *enormous opportunity* to make a difference and create change in our communities



We all want the same things (common ground on climate change)

Common Values:

- ***Protect*** our natural resources for *future generations* and *public health*.
- ***Responsibly manage*** our natural and fiscal resources.
- ***Sense of place*** encourages people to invest locally and overcome challenges.

Preparing for climate change through low-impact development satisfies each of those values.

And we *advocate* for smarter, healthier communities

Sustainable development

Using nature to help us be more resilient

- Improved water quality
- Improved public safety
- Reduced energy use
- Recreation and habitat
- Cost savings

We're all in this together.
Let's act like it.

Climate advocacy starts here

Conserve the natural green infrastructure already providing free ecosystem services

Integrate LID and green infrastructure design into development

Restore the resiliency of urban landscapes through LID in redevelopment

Conserve

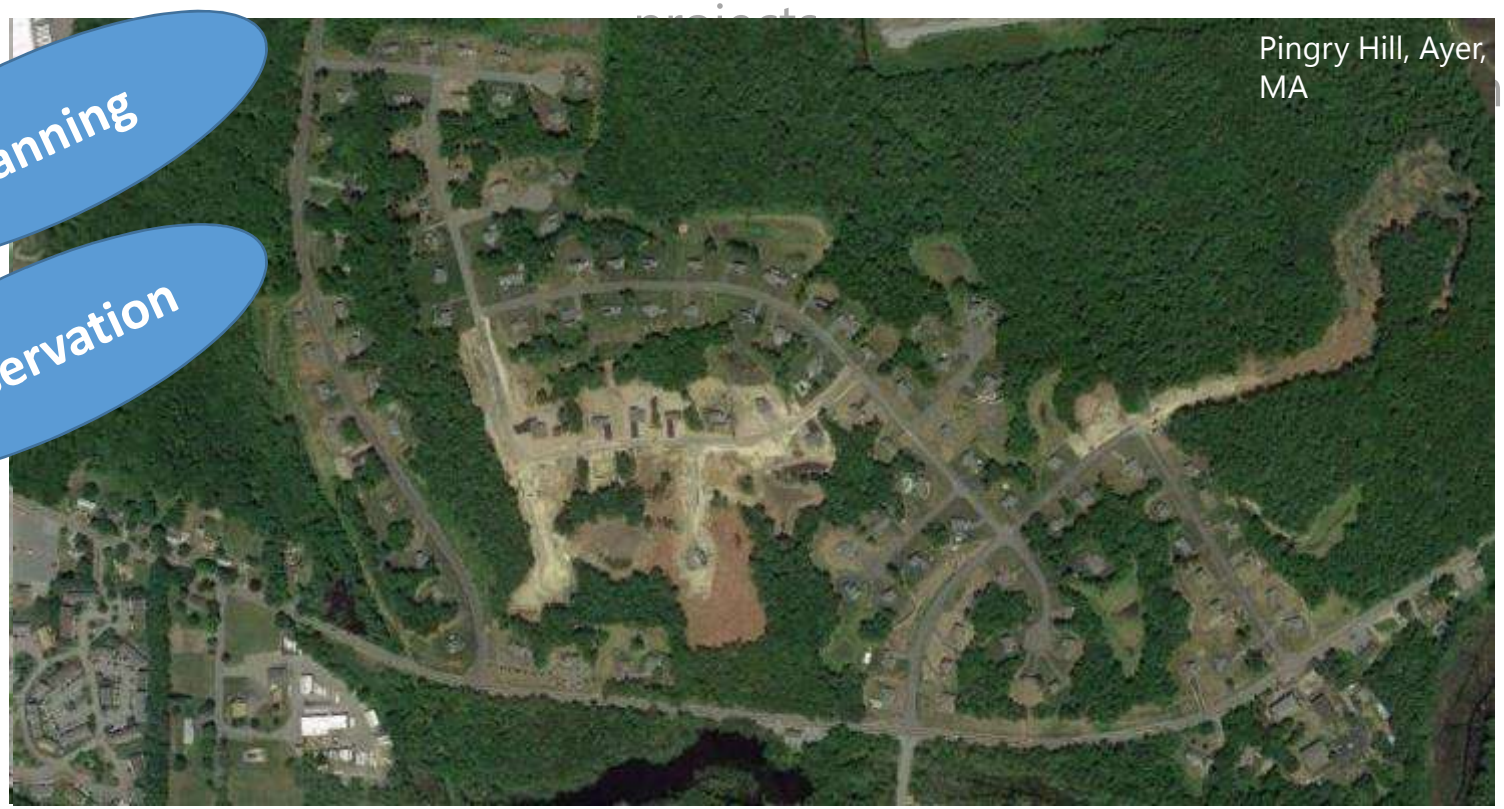
Conserve the natural green infrastructure already providing free ecosystem services

Integrate LID and green infrastructure designs into current development projects

Rest ment

planning

conservation



Pingry Hill, Ayer, MA

Integrate

Conserve the natural green infrastructure already providing free ecosystem services

Integrate LID and green infrastructure designs into current development projects

an landscapes through LID in redevelopment

DPW

developer

planning

homeowners

Restore

Conserve the natural green infrastructure already providing free ecosystem services

Integrate LID and green infrastructure designs into current development

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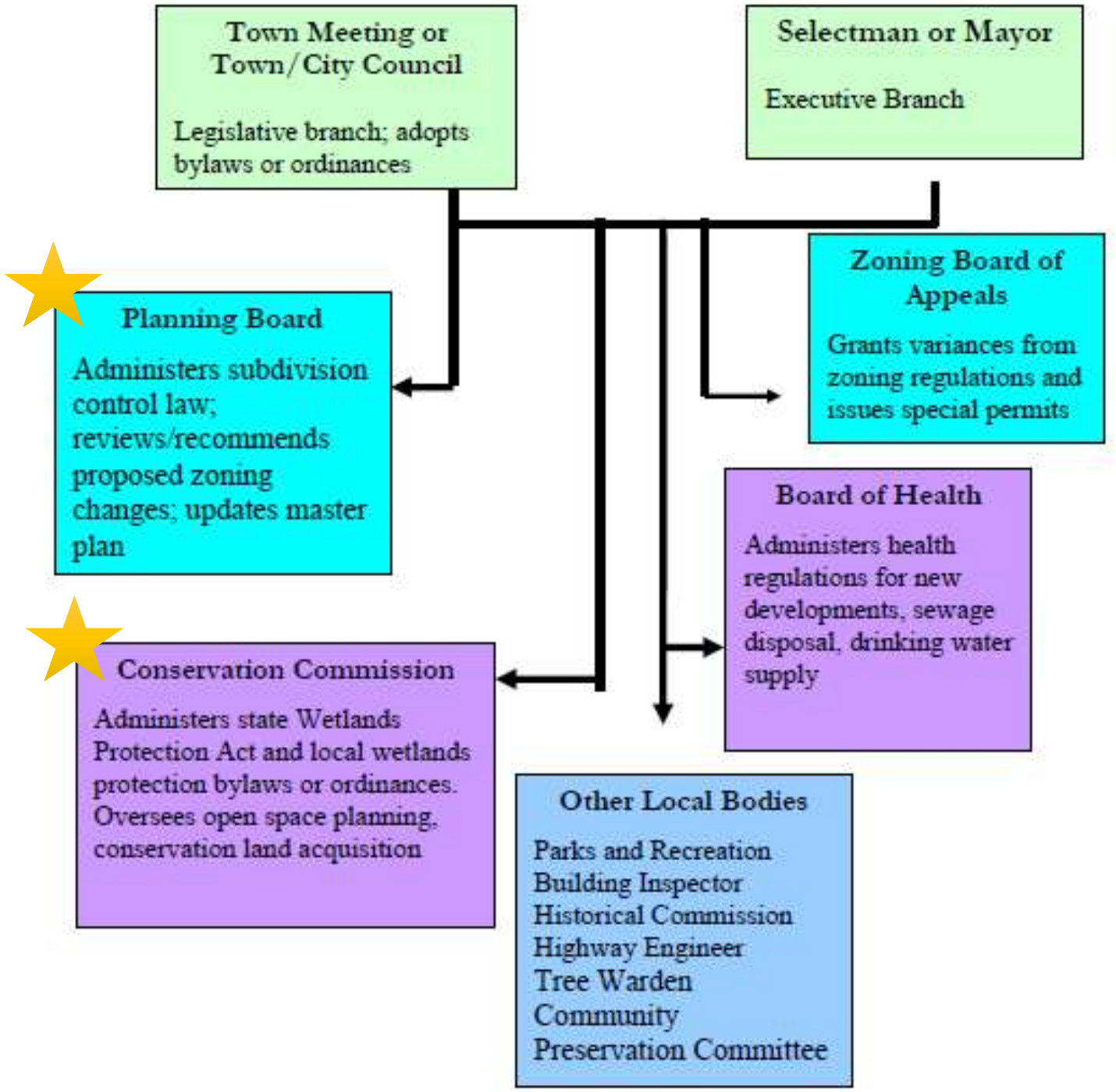
Guide to Local Government



Conservation Commission

- 5-7 volunteers, meet 1-2/month
- Sometimes paid staff: conservation agent
- Implement Wetlands Protection Act
- Issue permits for local wetland protection laws
- Massachusetts Association of Conservation Commissions (MACC)

Planning Boards

- 5-9 volunteers on a PB, meet 1-2/month (appointed or elected)
- Sometimes paid staff: town planner
- Oversees subdivision of land, master plan, recommends zoning changes, may grant special permits
- Citizen Planner Training Collaborative (CPTC)


Planning that doesn't consider climate change...
Plum Island
Photo: Boston Globe

VS. Planning that does

Adaptation: Preserve barrier beaches and prepare for salt marsh migration to reduce flooding and retain habitat

Department of Public Works

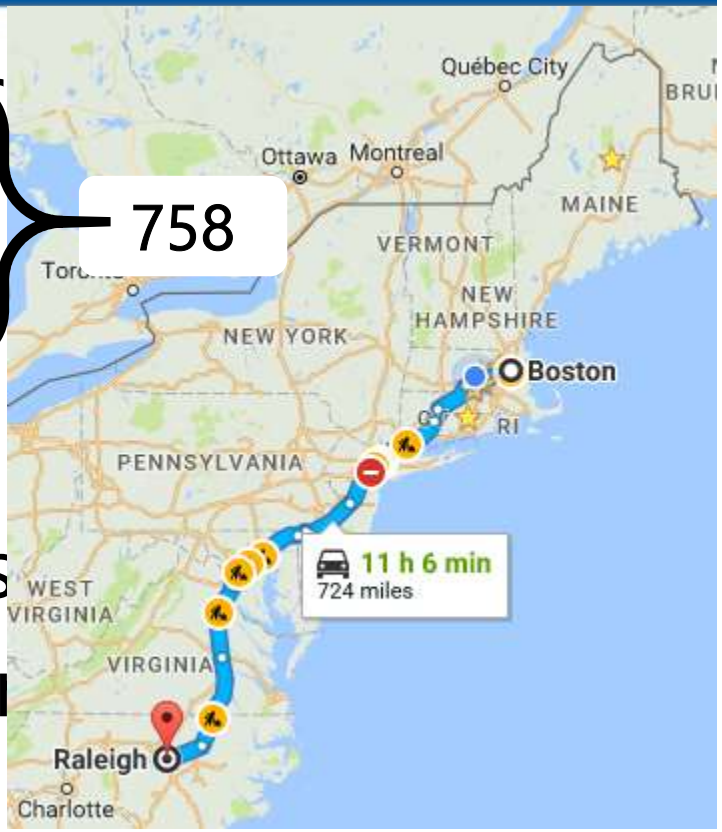
Responsible for municipal infrastructure

- Water
- Sewer
- Stormwater
- Roads
- Culverts

Example: City of Worcester

- 377 – miles of sanitary sewer
- 322 – miles of storm sewer
- 59 miles – combined sewer
- 16,000 – storm drains
- 345 – outlets into water ways
- 28 – sewage-pumping statio

758



Infrastructure can…

Allow streams and rivers to flow, despite our infrastructure

Or not.

Not built to allow for large storms and more water

vs.

Roadways:
money, stormwater, community feel

Road Diets

Narrowing just 2 miles of road by 4 feet/lane

(or 2′/lane for 4 miles, 1′/lane for 8 miles…)

Plus savings on repair, salting, plowing…

Not building the road through a sprawling development in the first place? Savings grow to the *millions*.

Drinking water supply

Last year, the City of Worcester's reservoirs went try and spent >$1M to purchase MWRA water.

That **took money from the local budget** for infrastructure repairs, wate monitoring, education, new equipment, or other projects.


City of Worcester reservoir
September 2016

Drinking water protection

- Quabbin & Wachusett Reservoirs serve 2.5 million
- Over 20 years, Massachusetts Water Resources Authority spent $130M to protect 22,000 acres of watershed lands
- Avoided ratepayer cost of $250M on a filtration plant and $4M/yr in operations

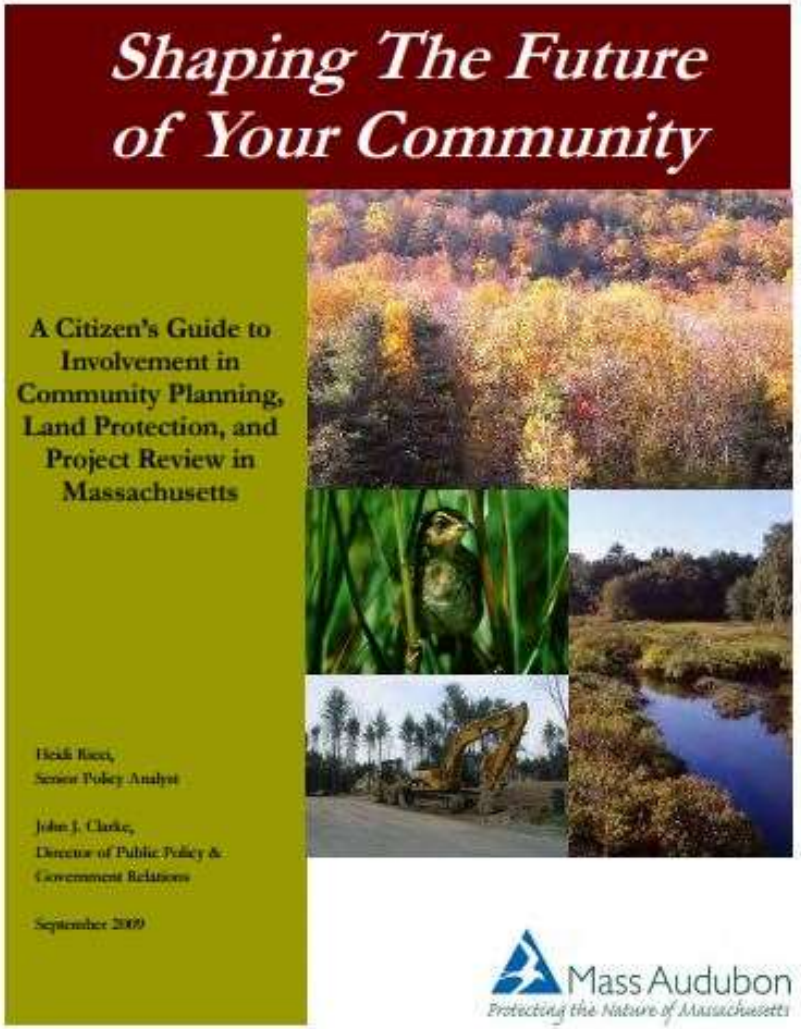
Other boards and officials

- Board of Health
- Historical commission
- Community preservation committee
- Open space and recreation committee
- Tree warden

massaudubon.org/shapingguide

Learn about…

- How to Be an Effective Advocate
- Who's Who of Local, Regional, State, and Federal Management and Environmental Agencies
- Local Land Use Planning and Conservation Strategies
- Zoning, Regulatory Land Use Controls, and Incentives
- Land Protection
- Project Review and Permitting



Five things you can do today to make a difference

- ✓ Support your local land trust
- ✓ Talk to your neighbors and friends about climate change, forests, native plants, or another issue you care about
- ✓ Check to see when your local planning board or conservation commission meets and find a time you can attend
- ✓ Look at where the nearest stormdrain is to your house and keep an eye on it in the next storm (and as leaves fall)
- ✓ Skip a day (or a week) in mowing and watering your lawn and let those roots grow and become climate-resilient

Top tips on being an advocate

1. Understand your audience and speak to what they care about with shared values

2. Work on something YOU care about! You're more effective when you mean what you say.

3. Share credit

Top tips on being an advocate

4. **Empower them!** Encourage positive solutions without guilt tripping

5. **Keep actions local and simple** – Trees offer cool shade when it's hot. We need to plan ahead and protect our local resources.

Top tips on being an advocate

6. Encourage questions – make sure they understand what you're asking of them and where they can go for follow up information
7. Collaborate & partner – people support what they help create
8. Assume good intent and don't burn bridges
9. Keep going – polite, persistent persuasion

Top tip on being an advocate

You're probably already doing it

Just keep talking to others & encouraging smart actions!


Thank you!
For more information, please visit
www.massaudubon.org/shapingthefuture
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Ten things you can do at home…

1. Divert your downspouts
2. Plant a rain garden
3. Replace impervious surfaces
4. Adopt a drain – and encourage others to
5. Don’t wash your car in the driveway
6. Pick up pet waste
7. Reduce fertilizer and pesticide use
8. Replace lawn with native plants
9. Reduce lawn watering and mowing
10. Pick up leaf litter (compost/dispose of properly)

1. Divert your downspouts
bioretention, dry swale, or rain barrel

Source: Center for Neighborhood Technology

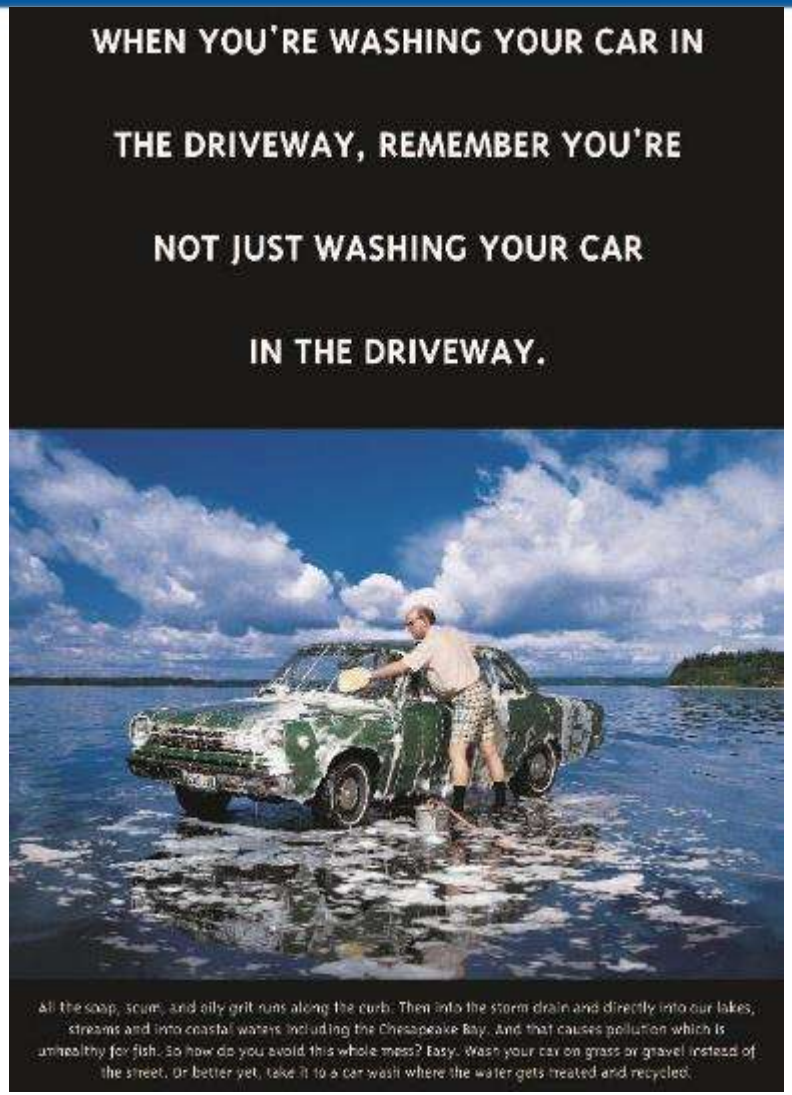
Source: Horsley Witten Group

2. Plant a rain garden

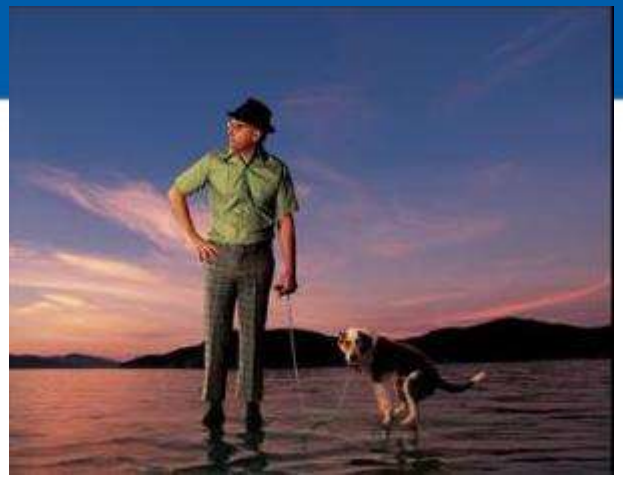
3. Reduce impervious surfaces

4. Adopt a drain

5. Don’t wash your car in the driveway



6. Pick up pet waste



Two or three days worth of droppings from a population of about 100 dogs can contribute enough bacteria to temporarily close a bay and all watershed areas within 20 miles to swimming and shell fishing.

100 dogs **20** miles

Dog feces are common carriers of:

- Heartworms
- Whipworms
- Hookworms
- Roundworms
- Tapeworms
- Parvovirus
- Giardia
- Salmonella
- E. coli

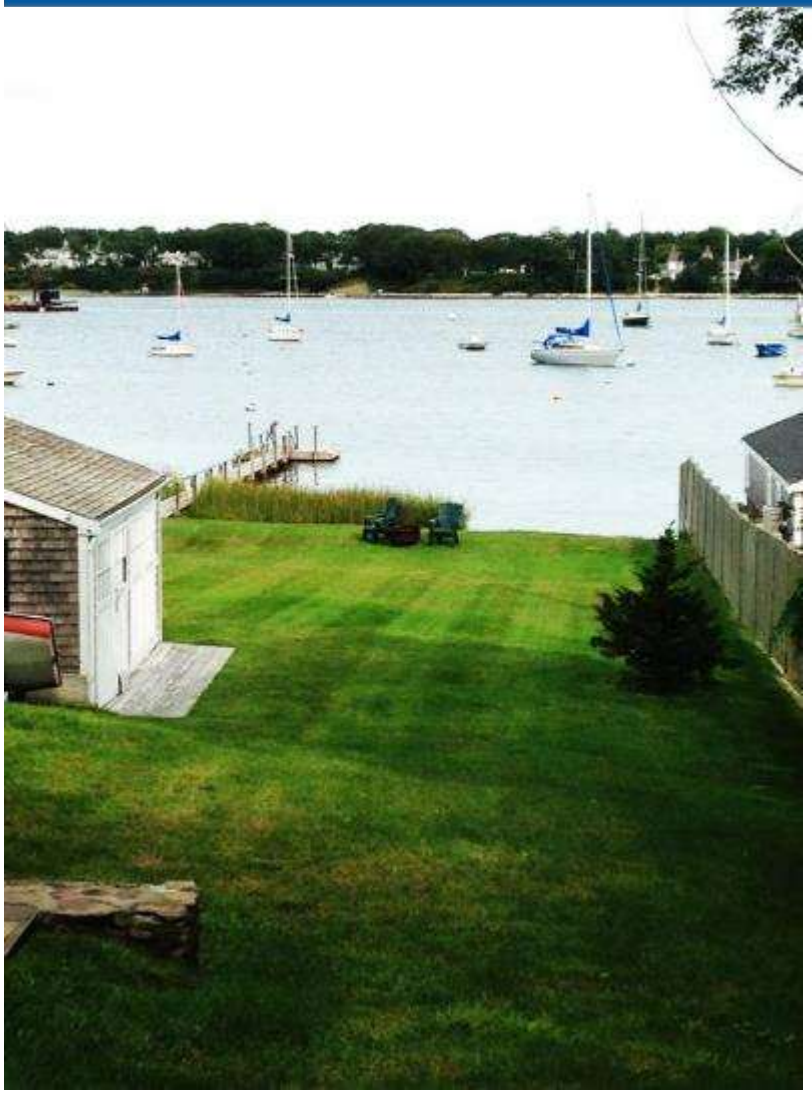
DOG WASTE CAN HARM YOUR HEALTH

Unlike other sources adding to water pollution, such as lawn fertilizer, rinse water from driveways and motor oil, dog waste carries parasites and bacteria that can be transmitted directly to humans and make them sick.

The longer dog waste stays on the ground, the greater a contamination becomes.

Roundworm is one of the most common parasites found in dog waste. It can remain infectious in contaminated soil and water for years. A recent CDC study found 14 percent of Americans tested positive for roundworms.

7. Reduce fertilizers & pesticides



8. Plant natives

9. Reduce lawn watering and mowing

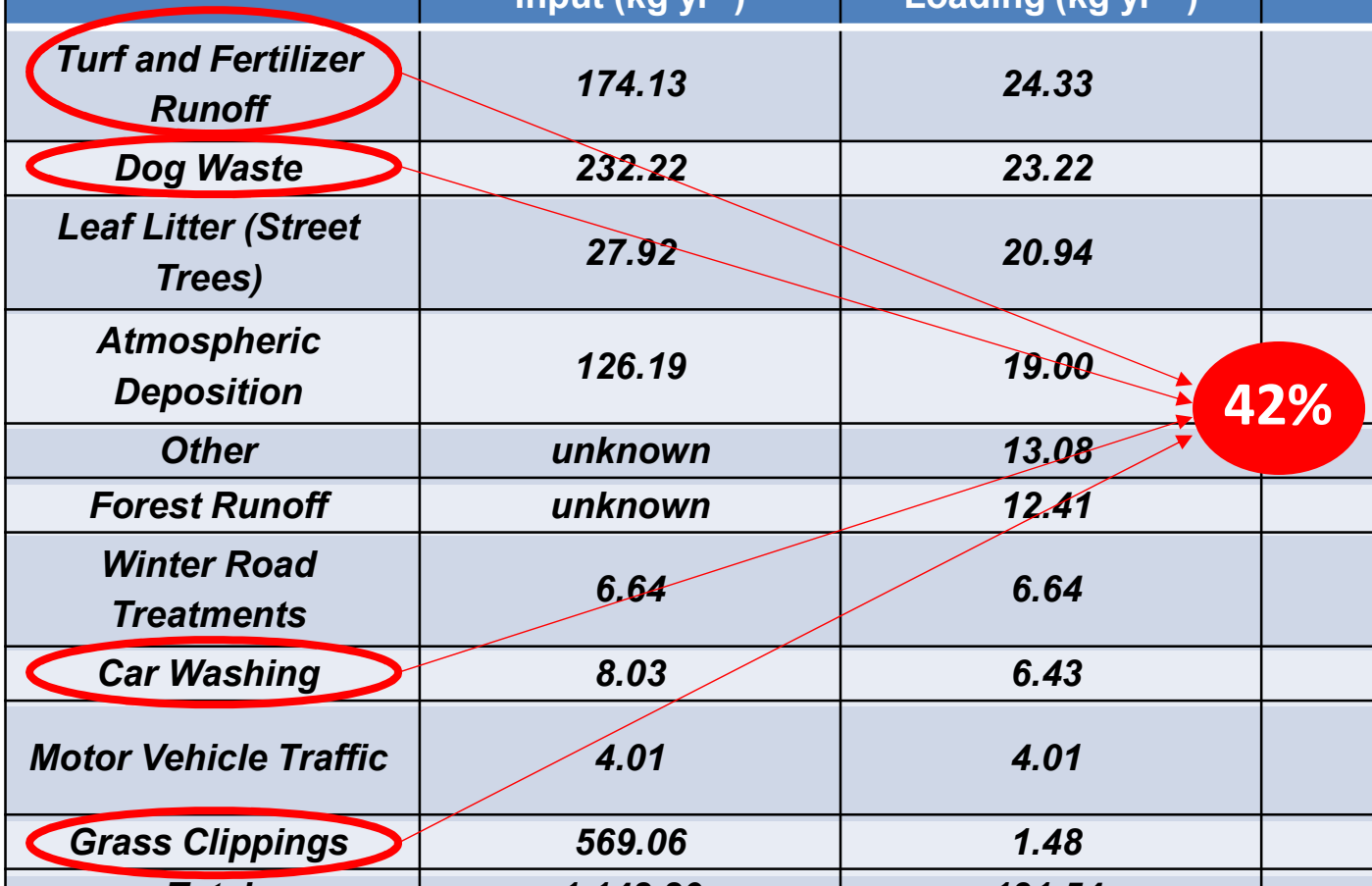
10. Pick up leaf litter

Don't let *THIS*.....turn into *THIS*

Leaf litter is full of nutrients. Great for forests and growth; not for stormwater

It adds up! Sources of Phosphorus in Stormwater: Upper Charles River Watershed

Source	Annual Phosphorus Input (kg yr^{-1})	Annual Phosphorus Loading (kg yr^{-1})	Percent of Total Load
Turf and Fertilizer Runoff	*174.13*	*24.33*	*18%*
Dog Waste	*232.22*	*23.22*	*18%*
Leaf Litter (Street Trees)	*27.92*	*20.94*	*16%*
Atmospheric Deposition	*126.19*	*19.00*	*14%*
Other	*unknown*	*13.08*	*10%*
Forest Runoff	*unknown*	*12.41*	*9%*
Winter Road Treatments	*6.64*	*6.64*	*5%*
Car Washing	*8.03*	*6.43*	*5%*
Motor Vehicle Traffic	*4.01*	*4.01*	*3%*
Grass Clippings	*569.06*	*1.48*	*1%*
Total	*1,148.20*	*131.54*	*100%*



Understanding the importance of these projects is the first step to successful local LID and healthier waterways

Visible + Simple + Easily understood +
Lovable *= Maintained*



Get your community involved at any (& every) age

- <u>Simplify the message</u>
  - Trees and soil drink water, reduce flooding
  - Plan ahead to protect these places
- <u>Ask questions about place</u>
  - How do animals move from one place to another? What if there's a road/development in the way? What if climate change removes a food source?
- <u>Get involved, feel ownership</u>
  - Protect your watershed: spray "Don't dump, drains to river" on catchbasins
  - Trace how water moves through your sanctuary & community
  - Make signs for waterways, trails, etc.