



Community Land & Water Coalition

www.communitylandandwater.org

Southeastern Massachusetts Pine Barrens
Alliance

www.pinebarrensalliance.org



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Open Forum
Protecting Our Land & Water
March 27, 2024
Plymouth Public Library

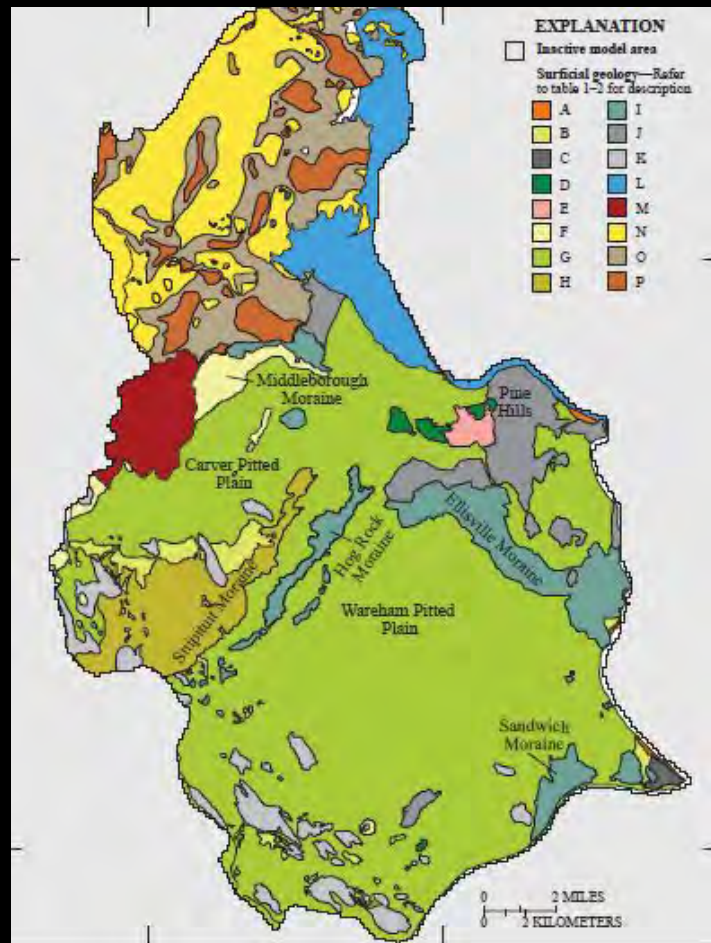
Agenda

- Introductory Remarks: 4-4:15 pm
- Audience Input: 4:15-4:45 pm
- Presentations: 4:45-5:05 pm
 - About the Aquifer
 - Nature & Our Waterways: Abundance
 - Voicing Your Concerns: How, Where, When
- Discussion/Question & Answer 5:05-5:50 p.m.
- Closing/Next Steps 5:50-6 p.m.



Presentation: Plymouth-Carver Sole Source Aquifer

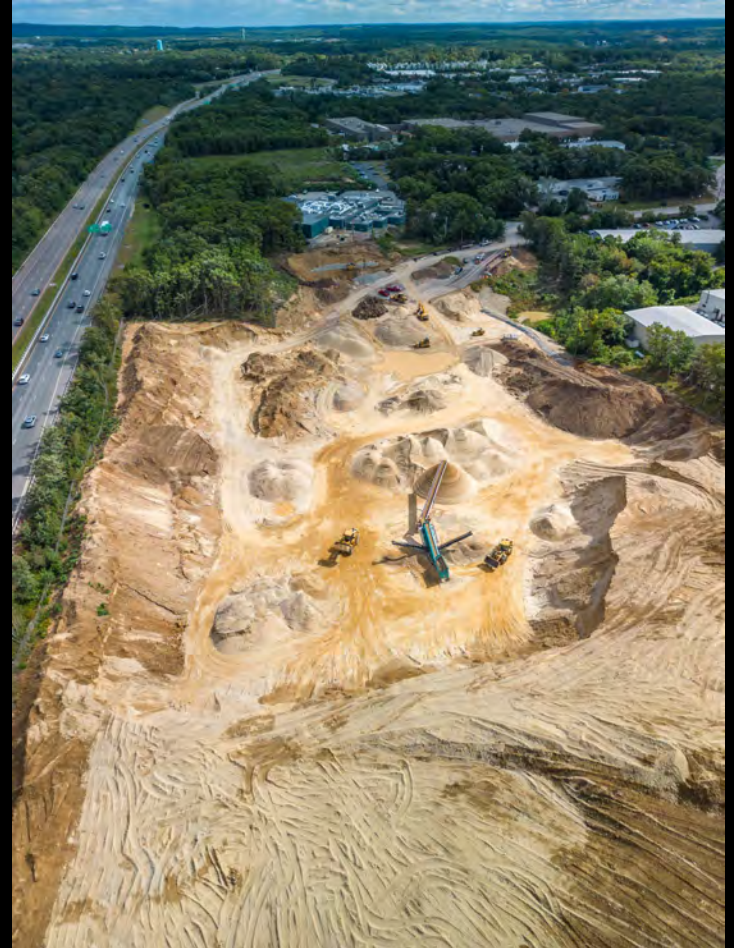
Katherine Harrelson, Community Land and Water Coalition
katherine@communitylandandwater.org

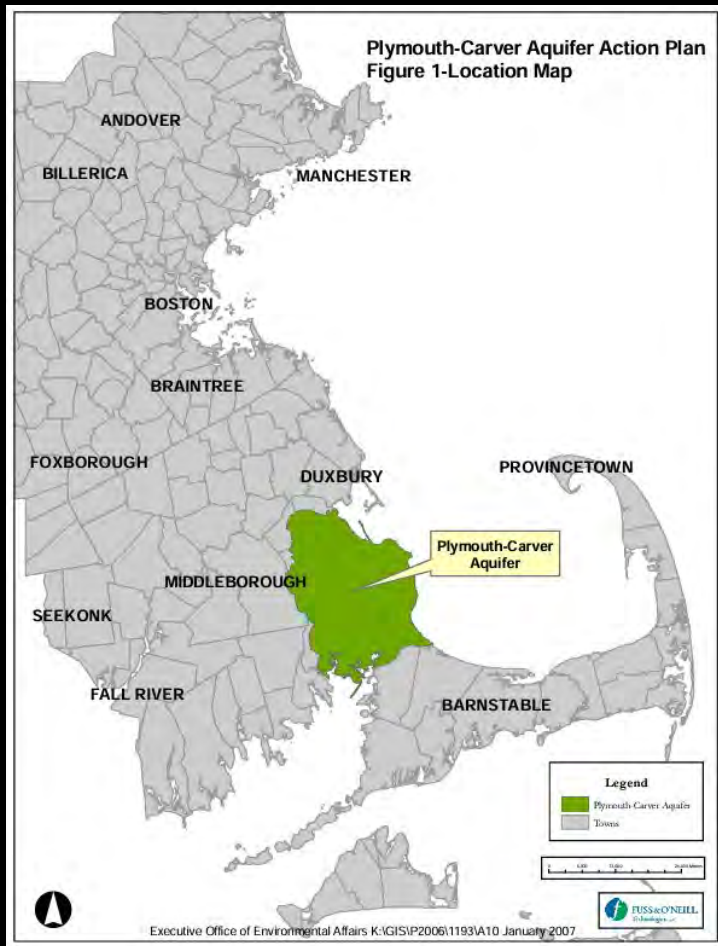


Left: Location of continental ice sheets during late Pleistocene. Right: Surficial geology of Southeastern Massachusetts (Masterson et al, pg 4,6)

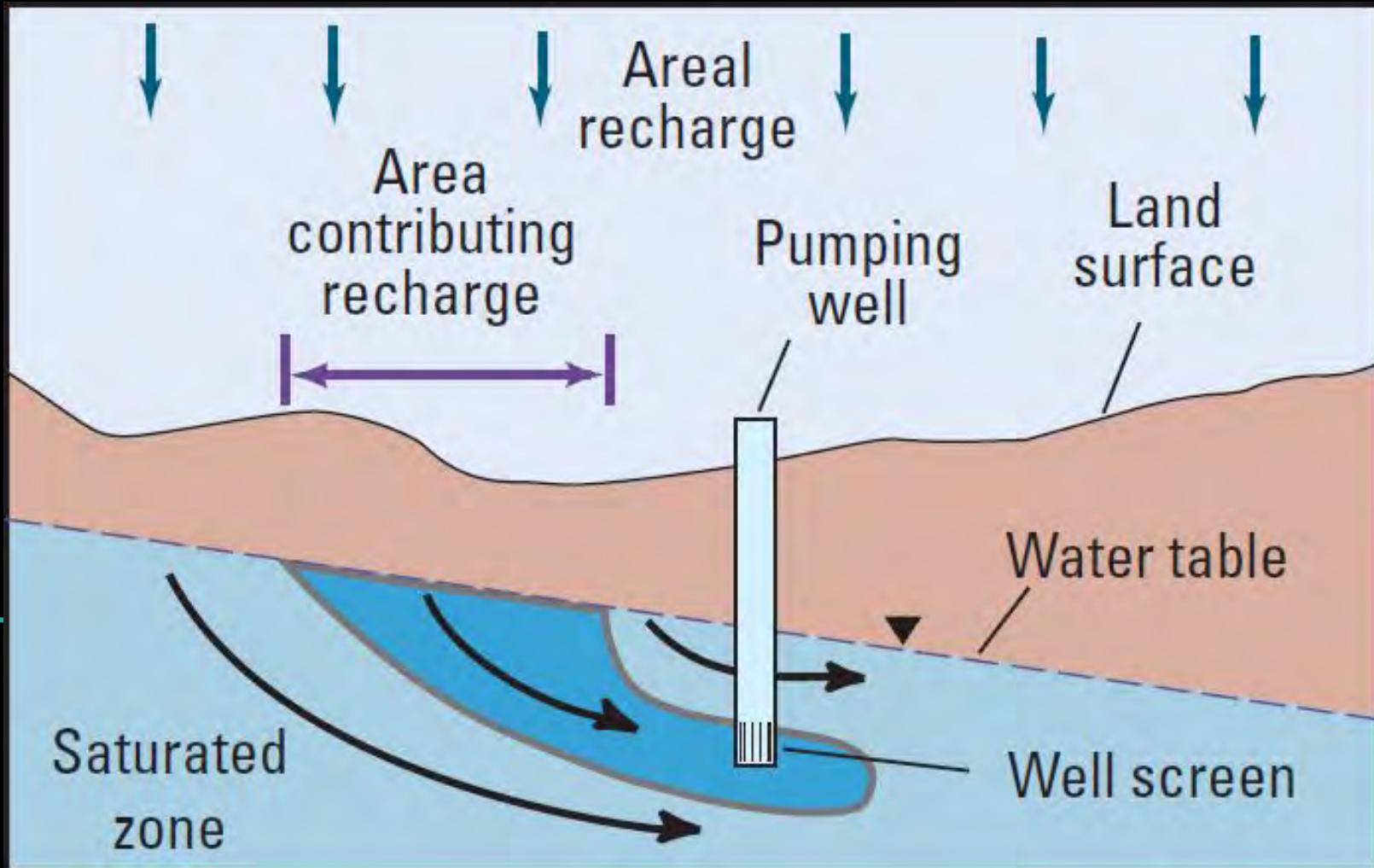


Left: AD Makepeace site off Federal Road, Carver
Right: 10 Collins Ave Industrial Park, Plymouth





Left: Plymouth-Carver Aquifer Location Map (Fuss & O'Neill, p. 17). Right: Open space, drainage basins, existing and proposed public water supply wells, c. 2009 (Masterson et al, p. 3)



Plymouth-Carver Aquifer & Zone II Wellhead Protection Areas



Zone IIs



Sole Source Aquifers



Property Tax Parcels

Why is the Aquifer
vulnerable to
contamination?

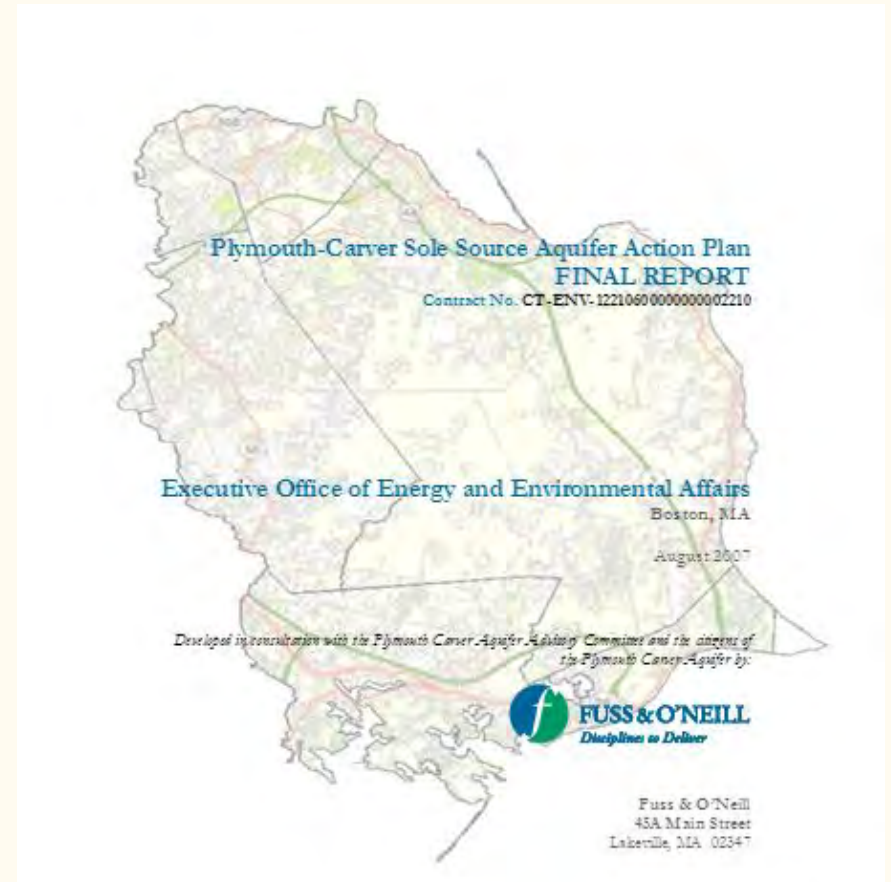
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Regional Planning & Aquifer Protection Efforts

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1. Plymouth Carver
Sole-Source Aquifer Action
Plan
2. Old Colony Planning Council
Regional Water Plan

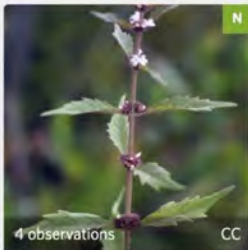




Abundance



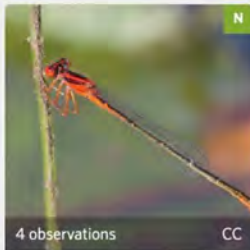
Frank Mand, Southeastern Massachusetts Pine Barrens
Alliance



Northern Bugleweed
(*Lycopus uniflorus*)



Swamp Loosestrife
(*Decodon verticillatus*)



Scarlet Bluet
(*Enallagma pictum*)



White Meadowsweet
(*Spiraea alba*)



Bear Oak
(*Quercus ilicifolia*)



Eastern Elliptio
(*Elliptio complanata*)



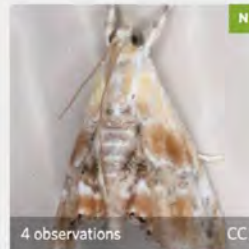
Pine Barren Goldenheather
(*Hudsonia ericoides*)



Juniper Webworm Moth
(*Dichomeris marginella*)



Black-marked Ancyliis Moth
(*Ancyliis metamelana*)



Julia's Dicytomolomia Moth
(*Dicytomolomia julianalis*)



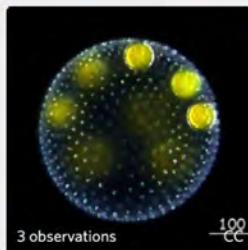
Pearly Wood-Nymph
(*Eudryas unio*)



Gray Catbird
(*Dumetella carolinensis*)



Northern Blue Flag
(*Iris versicolor*)



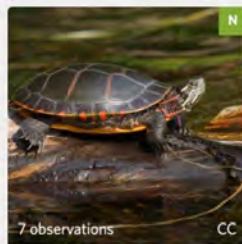
Green Algae
(Phylum Chlorophyta)



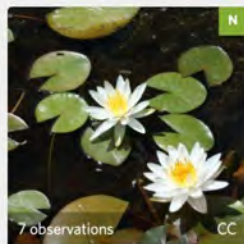
Pickerelweed
(*Pontederia cordata*)



Combleaf Mermaidweed
(*Proserpinaca pectinata*)



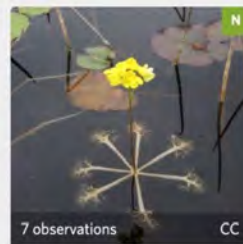
Painted Turtle
(*Chrysemys picta*)



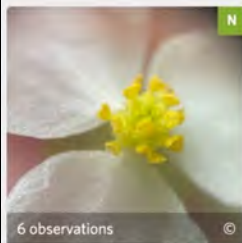
American White Waterlily
(*Nymphaea odorata*)



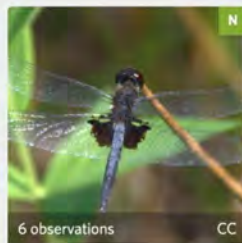
Slender Goldentop
(*Euthamia caroliniana*)



Swollen Bladderwort
(*Utricularia inflata*)



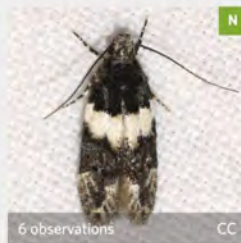
Grass-leaved Arrowhead
(*Sagittaria graminea*)



Martha's Pennant
(*Celithemis martha*)



Gallberry
(*Ilex glabra*)



White-banded Pubitelphusa Moth
(*Pubitelphusa latifasciella*)



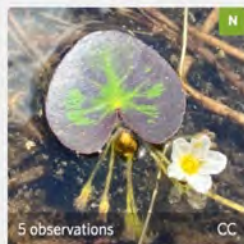
Swamp Candles
(*Lysimachia terrestris*)



Blue Toadflax
(*Nuttallanthus canadensis*)



Eastern Black-legged Tick
(*Ixodes scapularis*)



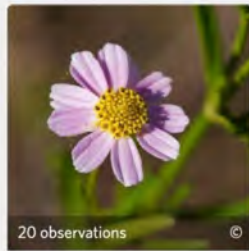
Little Floatingheart
(*Nymphoides cordata*)



Eastern Teaberry
(*Gaultheria procumbens*)



Carolina Saddlebags
(*Tamea carolina*)



20 observations ©

Rose Coreopsis
(*Coreopsis rosea*)



19 observations CC

Thread-leaved Sundew
(*Drosera filiformis*)



19 observations CC

Spoonleaf Sundew
(*Drosera intermedia*)



18 observations CC

Virginia Meadowbeauty
(*Rhexia virginica*)



16 observations CC

Golden Hedge-Hyssop
(*Gratiola aurea*)



13 observations CC

Northern Highbush Blueberry
(*Vaccinium corymbosum*)



12 observations CC

Horned Bladderwort
(*Utricularia cornuta*)



10 observations CC

Common Pipewort
(*Eriocaulon aquaticum*)



10 observations CC

Purple Bladderwort
(*Utricularia purpurea*)



9 observations CC

Pitch Pine
(*Pinus rigida*)



9 observations CC

Cross-leaved Milkwort
(*Polygala cruciata*)



9 observations CC

Brown Beakrush
(*Rhynchospora fusca*)



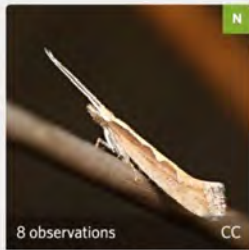
8 observations CC

Fowler's Toad
(*Anaxyrus fowleri*)



8 observations CC

Watershield
(*Brasenia schreberi*)



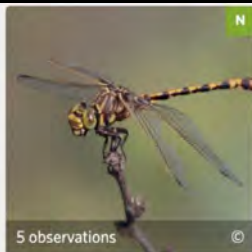
8 observations CC

Diamondback Moth
(*Plutella xylostella*)



5 observations CC

Broomsedge Bluestem
(*Andropogon virginicus*)



5 observations ©

Common Sanddragon
(*Progomphus obscurus*)



5 observations CC

Common Boneset
(*Eupatorium perfoliatum*)



5 observations CC

Green Pug
(*Pasiphila rectangularis*)



5 observations CC

Toothed Sedge
(*Cyperus dentatus*)



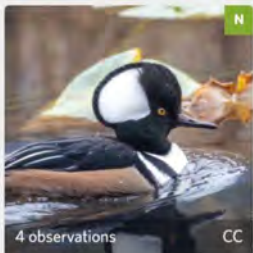
5 observations CC

Dwarf Umbrella-Sedge
(*Fuirena pumila*)



4 observations CC

Great Blue Heron
(*Ardea herodias*)



4 observations CC

Hooded Merganser
(*Lophodytes cucullatus*)



4 observations CC

Spongy Moth
(*Lymantria dispar*)



4 observations CC

Red Maple
(*Acer rubrum*)



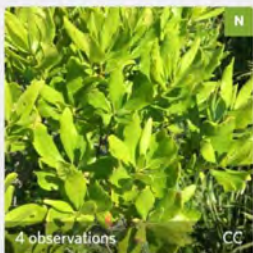
4 observations CC

Chain Pickerel
(*Esox niger*)



4 observations CC

Non-biting Midges
(Family Chironomidae)



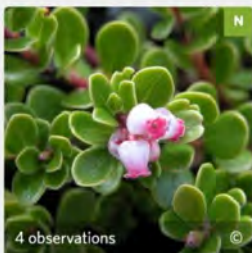
4 observations CC

Northern Bayberry
(*Morella pensylvanica*)



4 observations ©

American Toad
(*Anaxyrus americanus*)



4 observations ©

Bearberry
(*Arctostaphylos uva-ursi*)



Meg Sheehan, Community Land and Water Coalition
meg@communitylandandwater.org

Voicing Your Concerns: How, Where, When

Democracy!

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Executive Branch: Selectboard (elected)

Legislative: Town Meeting: You make the laws!

Judicial/Administrative: The boards and committees that implement the laws and work for you!

Threats to our water

Uncontrolled growth

Sand and gravel mining

Clean Water Act/Wetlands Laws



Sand Wars In Cranberry Country

An investigation into the money, politics and corruption
behind sand mining and the silent environmental crisis in
Southeastern Massachusetts, USA

www.sandwarssoutheasternma.org

Development in Zone II Wellhead Protection Area



Zone IIs



Property Tax Parcels

EWG Tap Water Database: 2021

The screenshot shows the EWG Tap Water Database interface for Plymouth Water Department. The page title is "EWG's Tap Water Database — 2021 UPDATE". The navigation bar includes "Menu", "EWG Home", and a "DONATE" button. The main content area is titled "Plymouth Water Department" and contains a summary of the water quality report. To the right, there is a "Utility Details" section. Below the summary, there is a "Contaminants Detected" section with a large orange circle containing the number "11" and the text "EXCEED EWG HEALTH GUIDELINES". Below this, there is a list of three bullet points. To the right of the list, there is a "What To Do" section with three orange buttons: "FILTER CONTAMINANTS OUT", "CONTACT YOUR LOCAL OFFICIAL", and "WHAT ABOUT LEAD?". At the bottom left, it says "23 Total Contaminants".

ewg.org/tapwater/system.php?pw=MA4239000

EWG's Tap Water Database — 2021 UPDATE

EWG Home

Detected contaminants EPA data

Plymouth Water Department

EWG's drinking water quality report shows results of tests conducted by the water utility and provided to the Environmental Working Group by the Massachusetts Department of Environmental Protection, as well as information from the U.S. EPA Enforcement and Compliance History database (ECHO). For the latest quarter assessed by the U.S. EPA (January 2021 - March 2021), tap water provided by this water utility was in compliance with federal health-based drinking water standards.

Utility Details
Plymouth, Massachusetts
Serves: 41,499
Data available: 2014-2020*
Source: Groundwater

* 2020/2021 testing is for chemicals in EPA's Fourth Unregulated Contaminant Monitoring Rule (UCMR-4) only.

Contaminants Detected

11
EXCEED
EWG HEALTH
GUIDELINES

- Legal does not necessarily equal safe. Getting a passing grade from the federal government does not mean the water meets the latest health guidelines.
- Legal limits for contaminants in tap water have not been updated in almost 20 years.
- The best way to ensure clean tap water is to keep pollution out of source water in the first place.

What To Do

FILTER CONTAMINANTS OUT

CONTACT YOUR LOCAL OFFICIAL

WHAT ABOUT LEAD?

23 Total Contaminants

Detected contaminants

EPA data

DONATE

Haloacetic acids (HAA9)†

Potential Effect: cancer

22x

EWG'S HEALTH GUIDELINE

THIS UTILITY	1.33 ppb
EWG HEALTH GUIDELINE	0.06 ppb
NO LEGAL LIMIT	

DETAILS

Nitrate

Potential Effect: cancer

3.3x

EWG'S HEALTH GUIDELINE

THIS UTILITY	0.464 ppm
EWG HEALTH GUIDELINE	0.14 ppm
LEGAL LIMIT	10 ppm

DETAILS

Radium, combined (-226 & -228)

Potential Effect: cancer

6.9x

EWG'S HEALTH GUIDELINE

THIS UTILITY	0.35 pCi/L
EWG HEALTH GUIDELINE	0.05 pCi/L
LEGAL LIMIT	5 pCi/L

DETAILS

Tetrachloroethylene (perchloroethylene)

Potential Effect: cancer

8.3x

EWG'S HEALTH GUIDELINE

THIS UTILITY	0.499 ppb
EWG HEALTH GUIDELINE	0.06 ppb
LEGAL LIMIT	5 ppb

DETAILS

Total trihalomethanes (TTHMs)†

Potential Effect: cancer

50x

EWG'S HEALTH GUIDELINE

THIS UTILITY	7.44 ppb
EWG HEALTH GUIDELINE	0.15 ppb
LEGAL LIMIT	80 ppb

DETAILS



Connect!

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You Tube: Save the Pine Barrens Southeastern Massachusetts

Instagram: @savepinebarrens

X: @savepinebarrens

www.communitylandandwater.org
www.sandwarssoutheasternma.org



pinebarrensalliance.org

Resources

www.sandwarssoutheasternma.org

communitylandandwater.org

[Moratorium on Sand Mining: Petition](#)

Get in touch:

environmentwatchesoutheasternma.org