

Welcome to The Value of Rain Gardens!



Produced by University of WI - Extension & WI DNR

It's Our

...Water

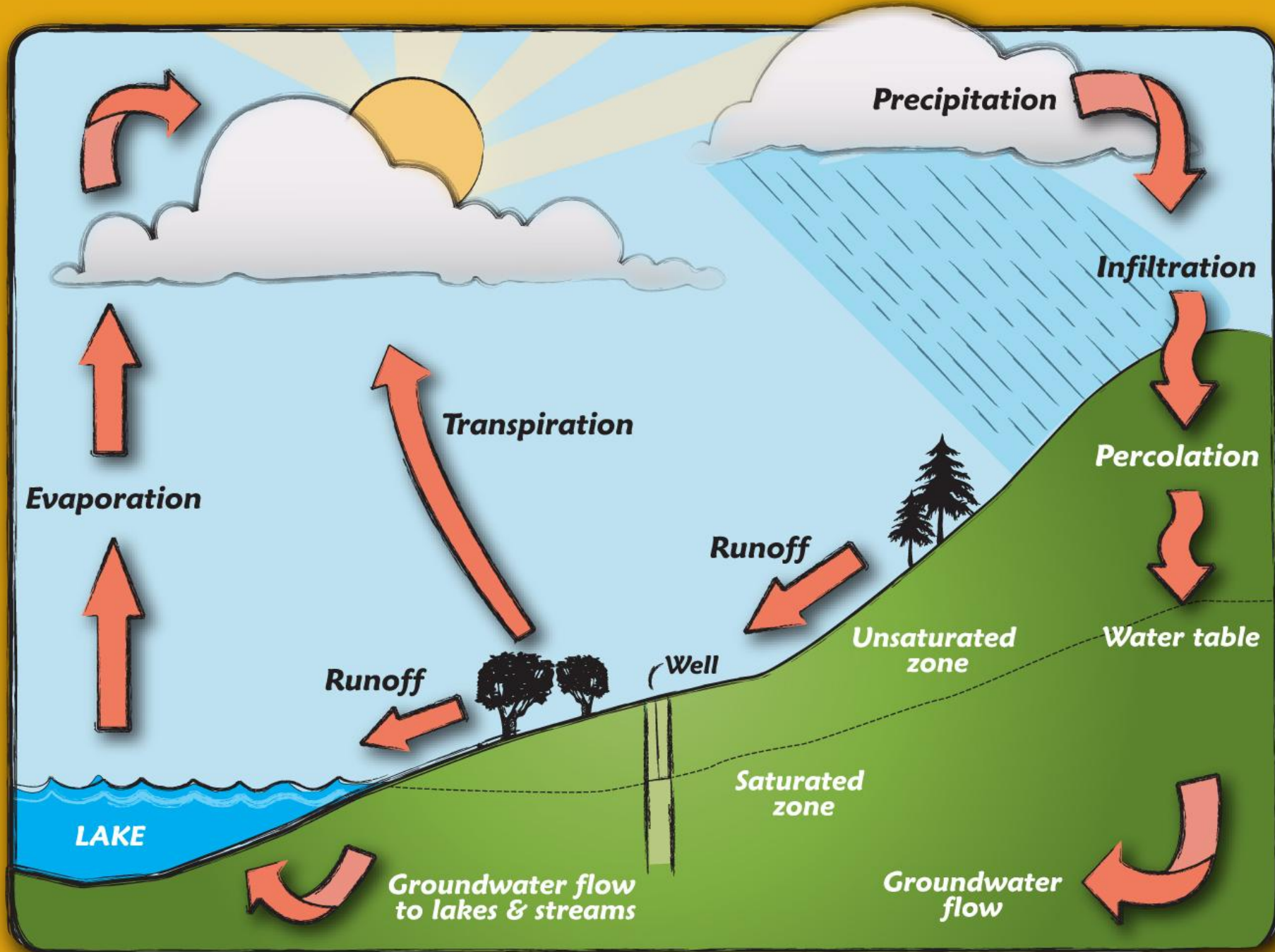


Watertown, Wis.



A photograph of a body of water, likely a lake or sea, under a cloudy sky. The water is dark blue with small waves. The sky is filled with white and grey clouds, with some light breaking through. The text "Rain, Rain Go Away!" is overlaid in the center in a white, bold, sans-serif font with a black outline.

Rain, Rain Go Away!



The rain that falls here...

Soaks into the Earth...





...where it replenishes our
natural waterways.

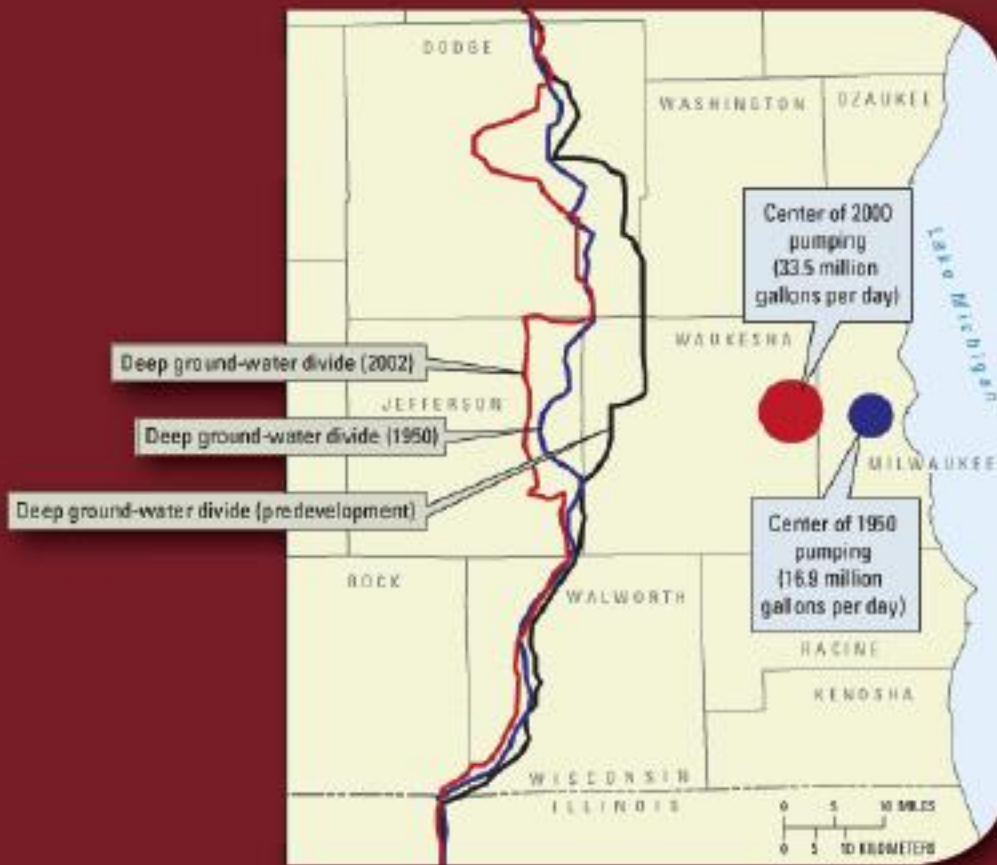




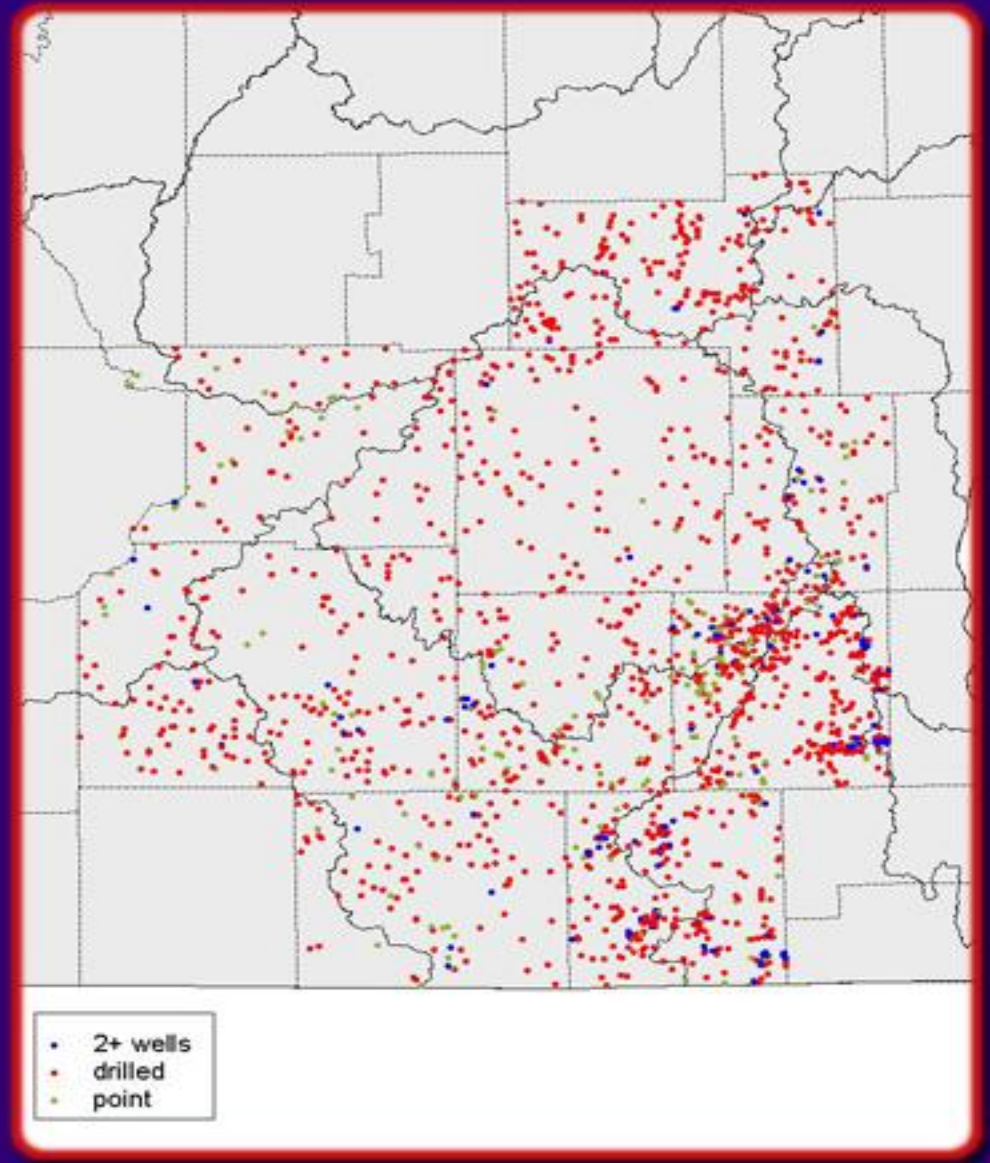




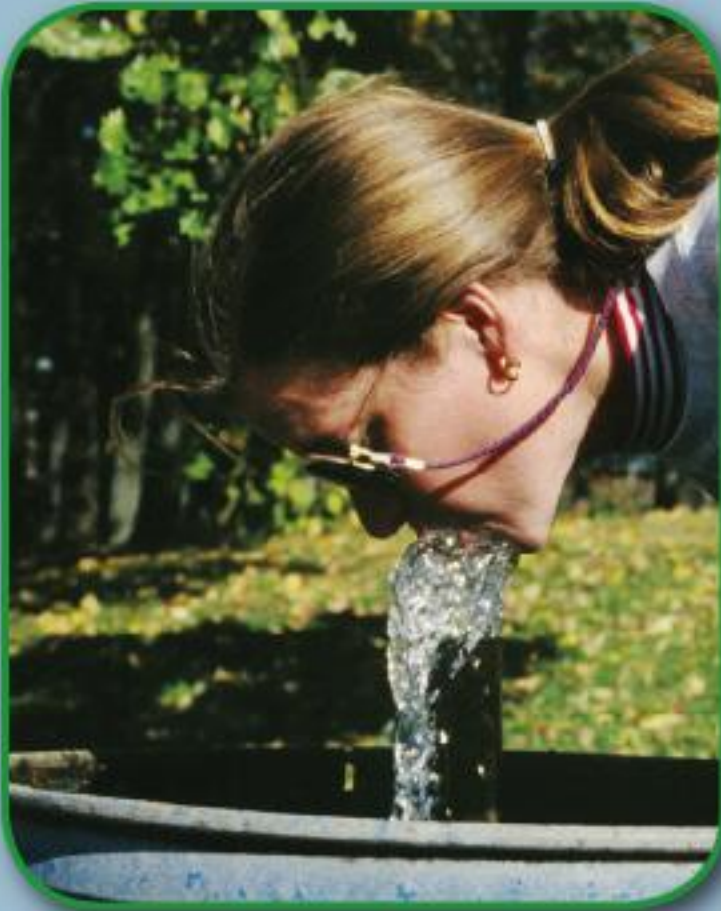
Groundwater Drawdown Regions



People's
wells
are
drying up



Because of groundwater overuse

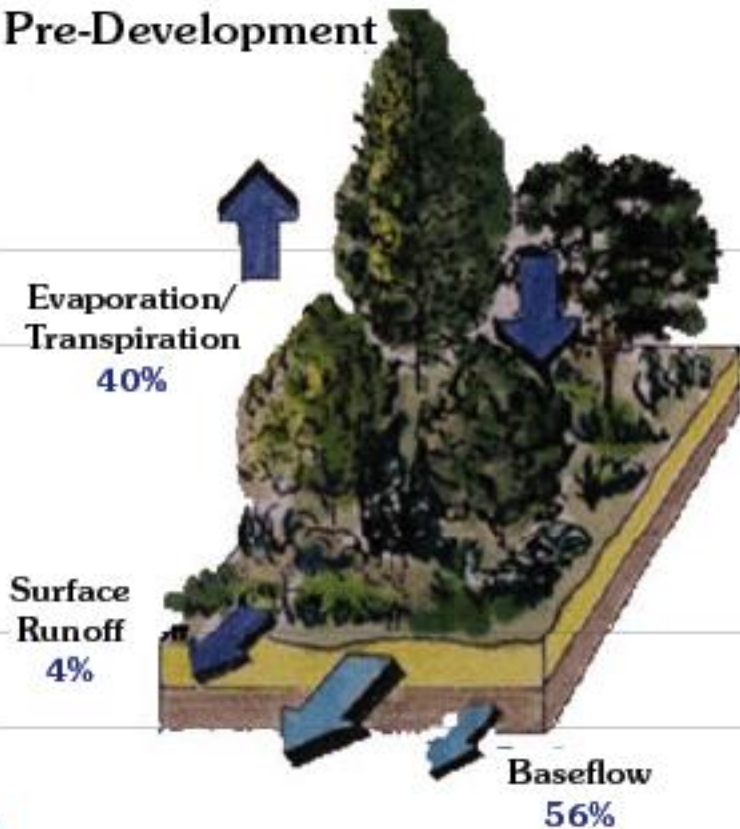


**Wetlands and small
streams have
disappeared**

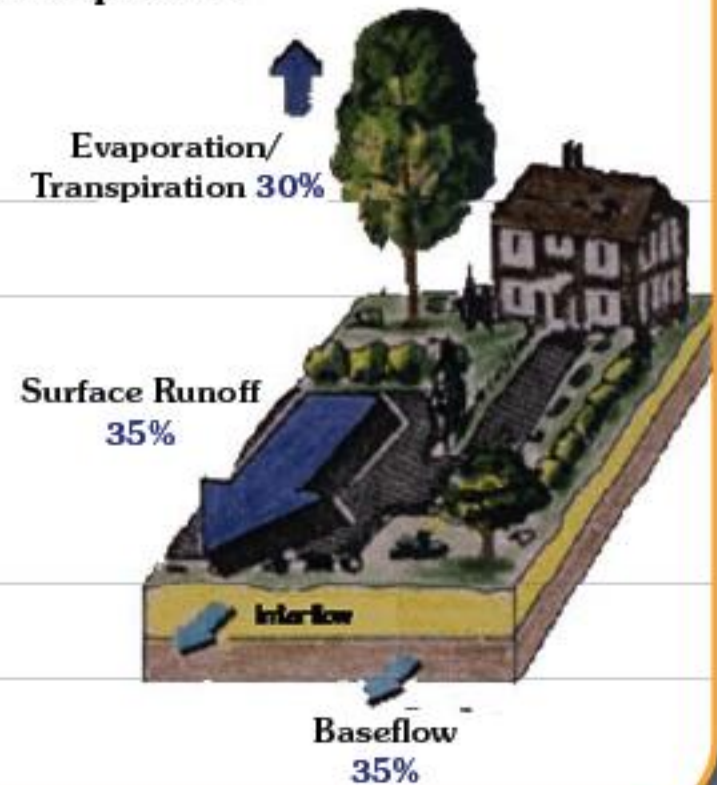
**Throughout the state
artesian wells are
no longer flowing**

WATER BALANCE

Pre-Development



Post-Development



A photograph of a residential street scene. In the foreground, a black mailbox stands on a grassy area next to a paved road. The road curves to the right. In the background, there are trees, a yellow diamond-shaped road sign, and a house. The text "Rain falls on our roadways, parking lots & roofs" is overlaid in the center of the image.

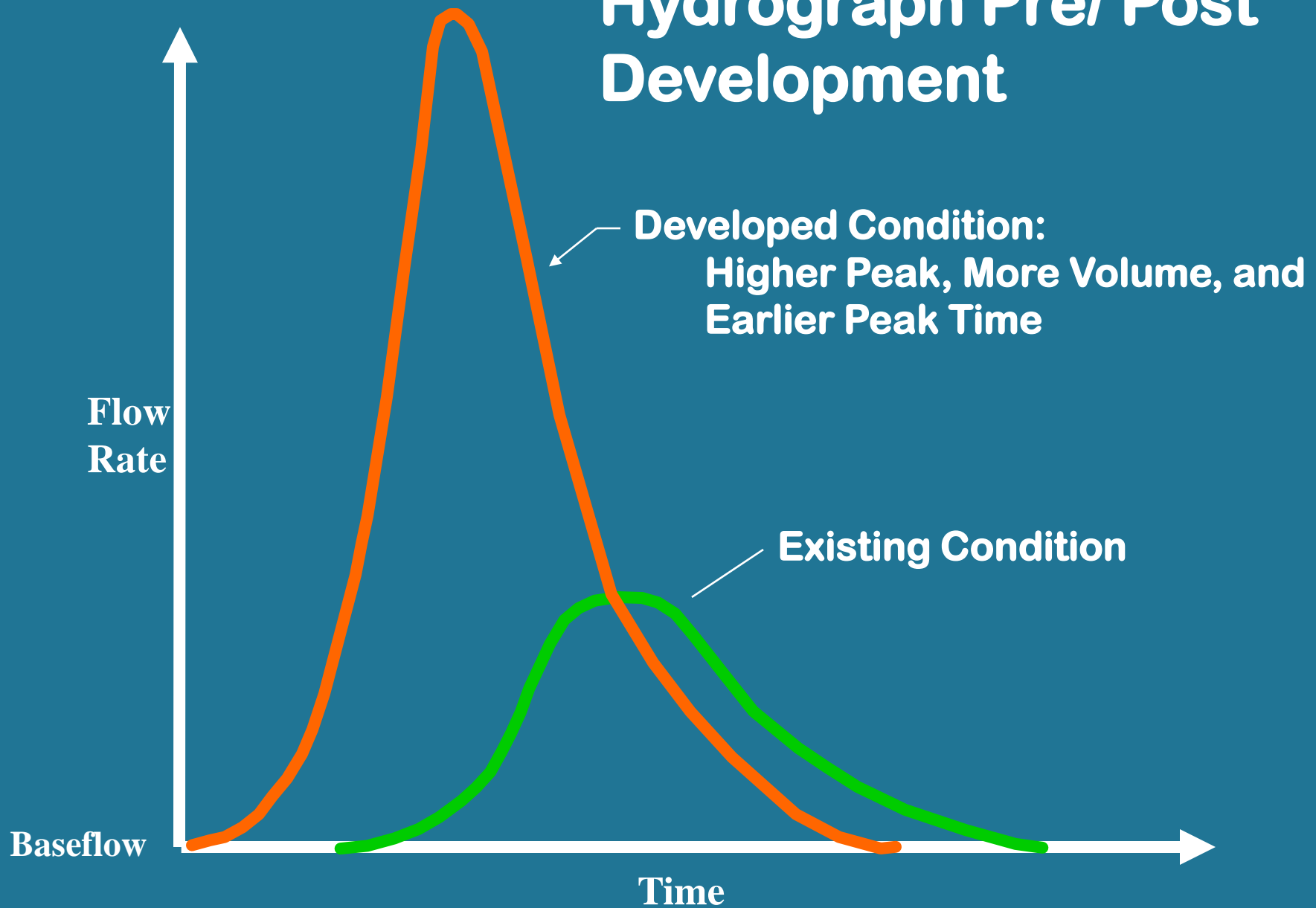
**Rain falls on
our roadways,
parking lots & roofs**





Water emerges at a high velocity through storm sewer systems.

Hydrograph Pre/ Post Development



Impacts of imperviousness



1) Reduces infiltration

- ❖ Diminished base flow
- ❖ Increased well failure
- ❖ Lose wetlands



2) Increased flooding

Projected Increase in Urban Runoff for Lake Mendota (from 2000-2020)

Amounts of
Urban Runoff
for 2000

5,600,000,000
Gallons

Amounts of
Urban Runoff
for 2020

8,800,000,000
Gallons

An Increase of **57%**



Flash Floods

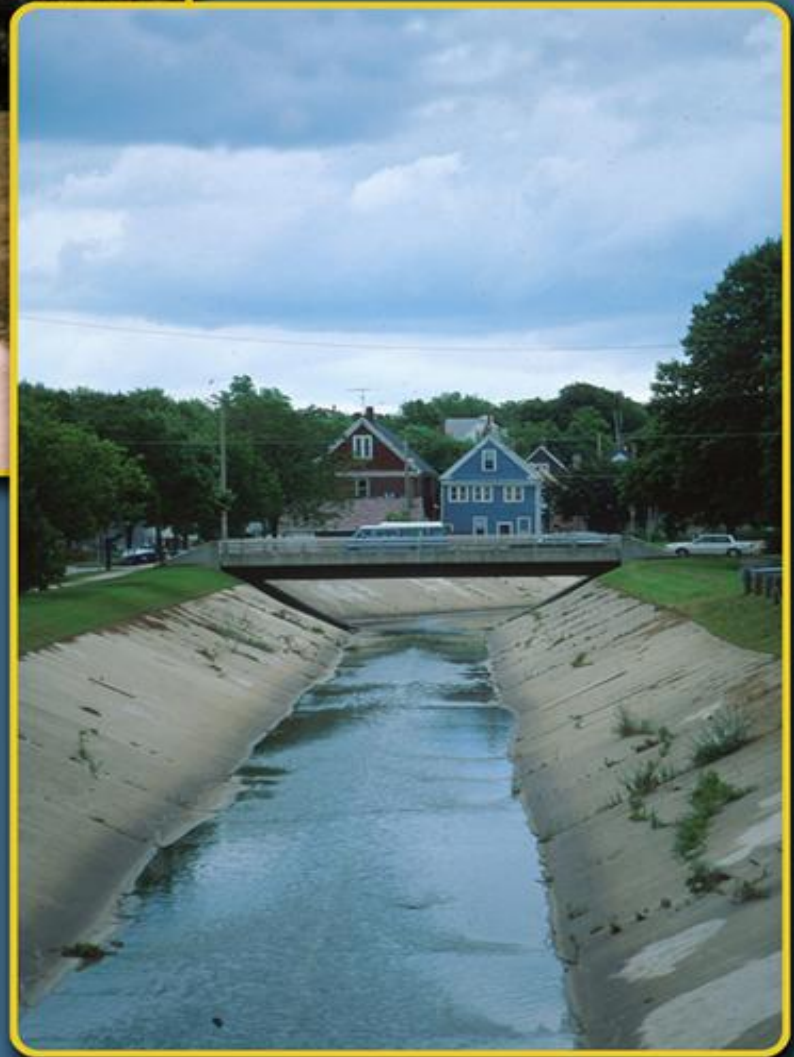


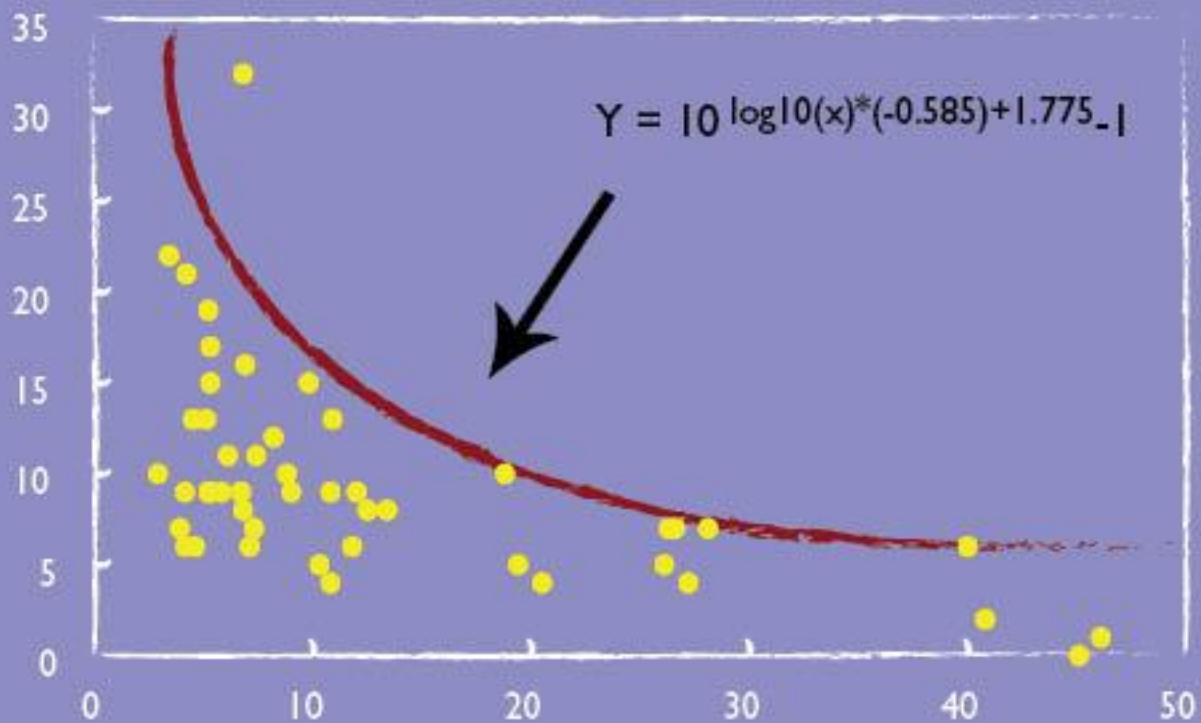


3) Erosion



Engineered Waterways





Connected imperviousness (%)

Not Just Quantity. Quality too!



Soil
Manure
Fertilizer



And with each rain “runoff”,
organic matter, soil, fertilizer,
oil and chemicals get added
to our lakes and streams.



...and insects, the base of the food chain











Excess plant
growth effects
our enjoyment
of our waterways.





NO
SWIMMING

WARNING

BEACH CLOSURE
DANGER
SWIMMING AT THE BEACH
IS DANGEROUS

LIFE
GUARDS
ON DUTY
10 00 AM
5 00 PM



Water based tourism brings
Wisconsin \$12 - \$15 billion
dollars every year

Our Goal



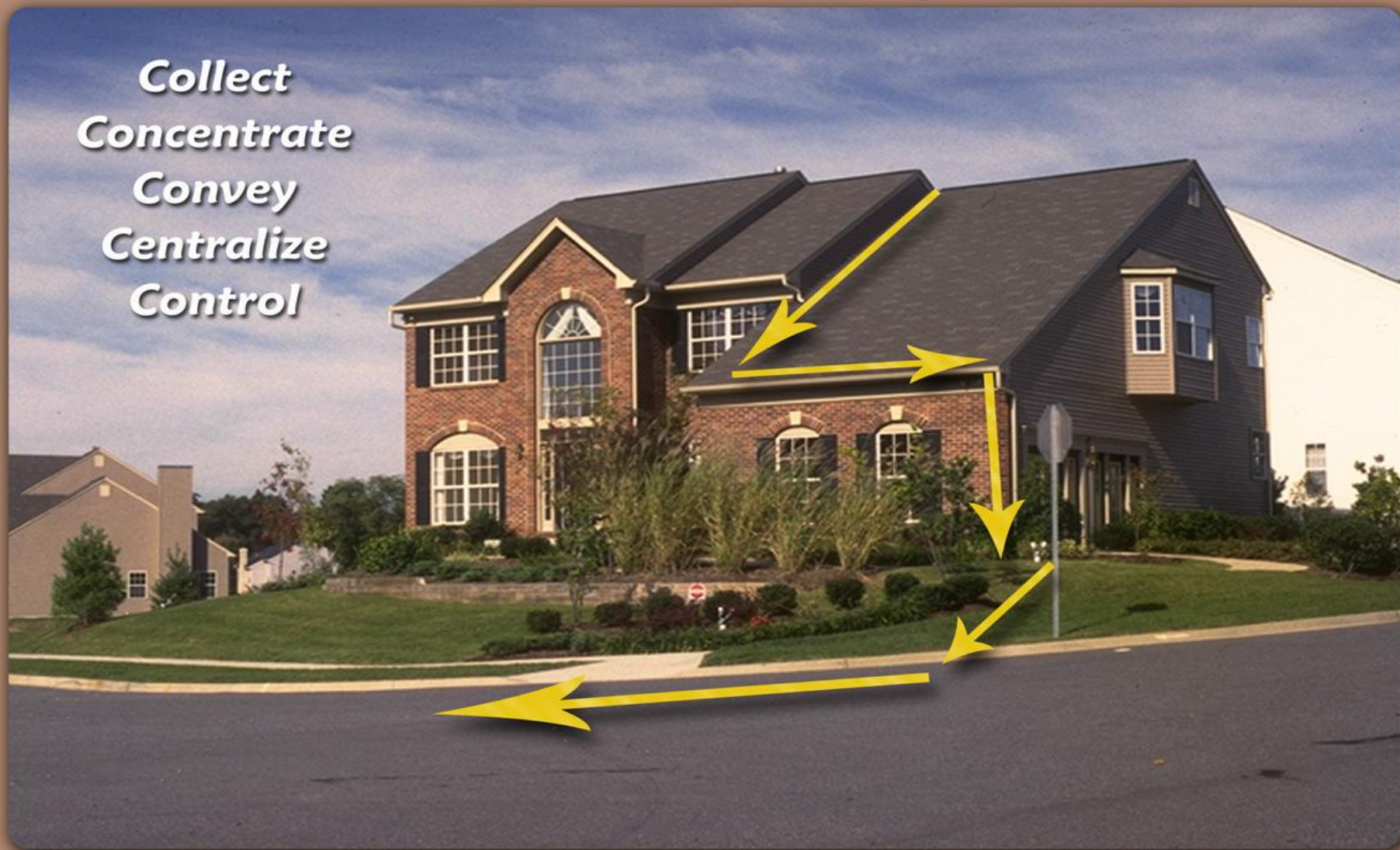
Need to
make this



Act more
like this

The Problem: Typical site design

***Collect
Concentrate
Convey
Centralize
Control***



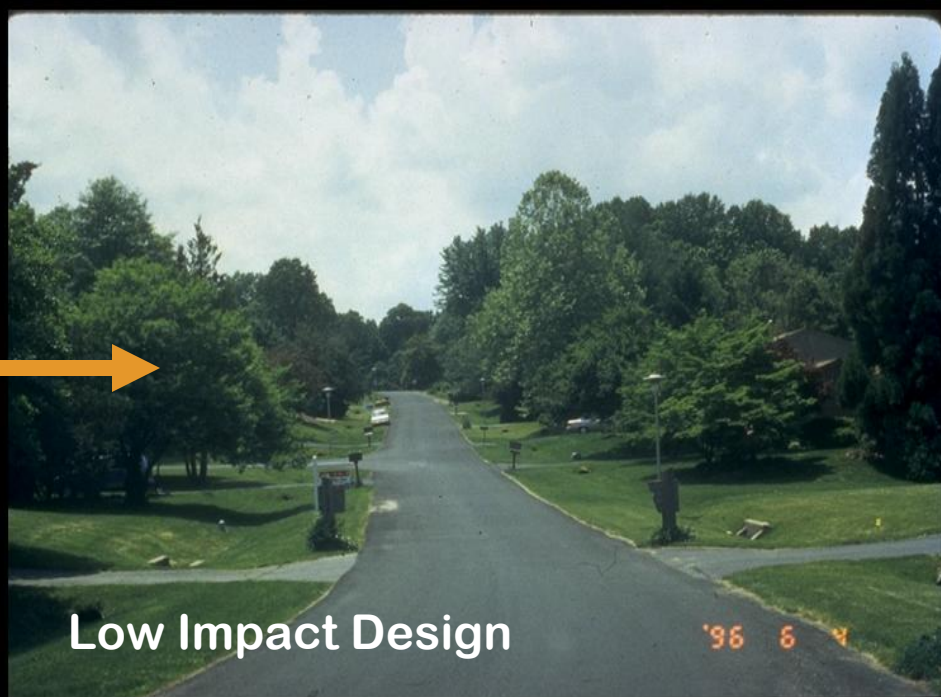
Traditional Drainage

What's the Answer?





Conventional Drainage



Low Impact Design



Traditional Drainage



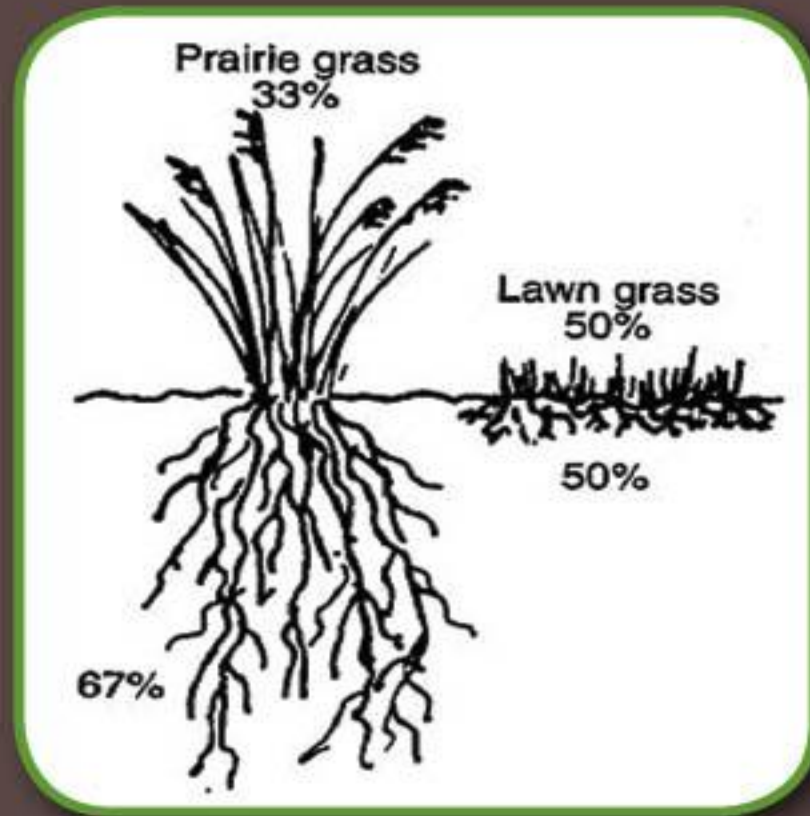
Functional Landscape Design



Rain Gardens

- Sunken Garden
- 4-6 inches deep with flat bottom
- Normally $\frac{1}{3}$ the size of area draining to it

Value of Using Native Plants



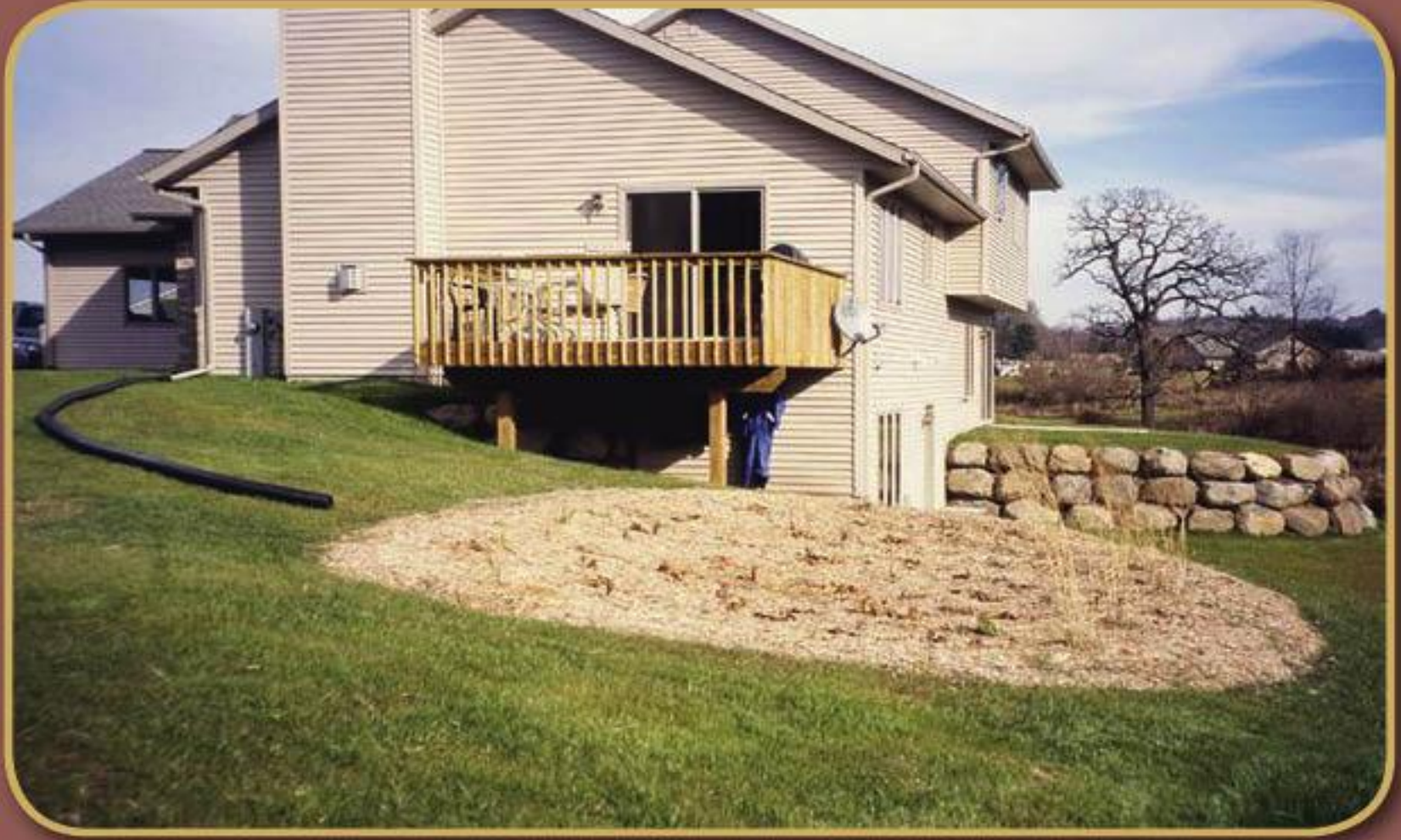
Deeper roots –
absorbs more
water

Uses no fertilizer

Uses little or no
pesticides

Does not require
watering after
establishment

Do they work?

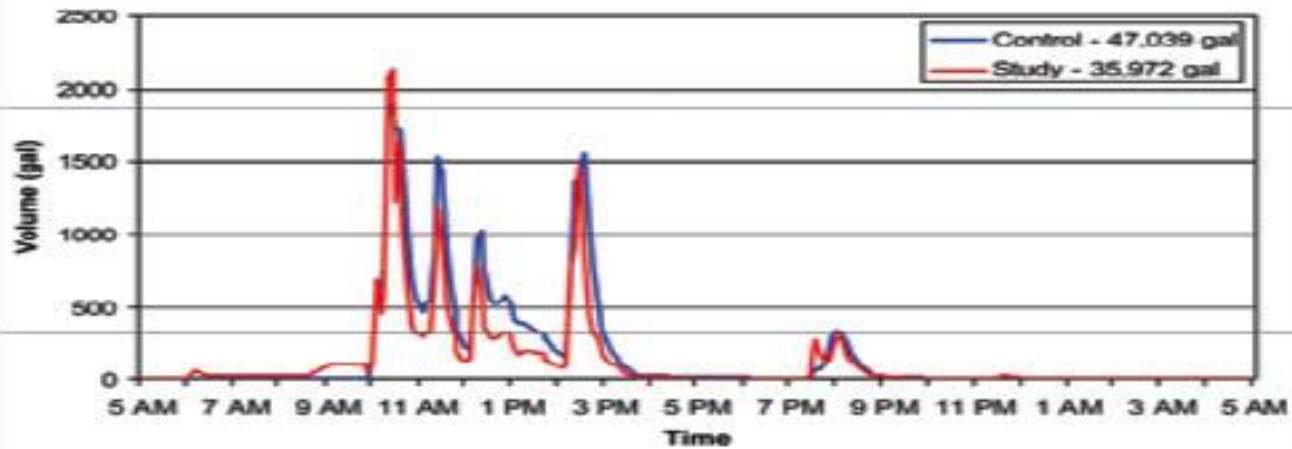




Pre-Construction Runoff Data

June 6, 2003

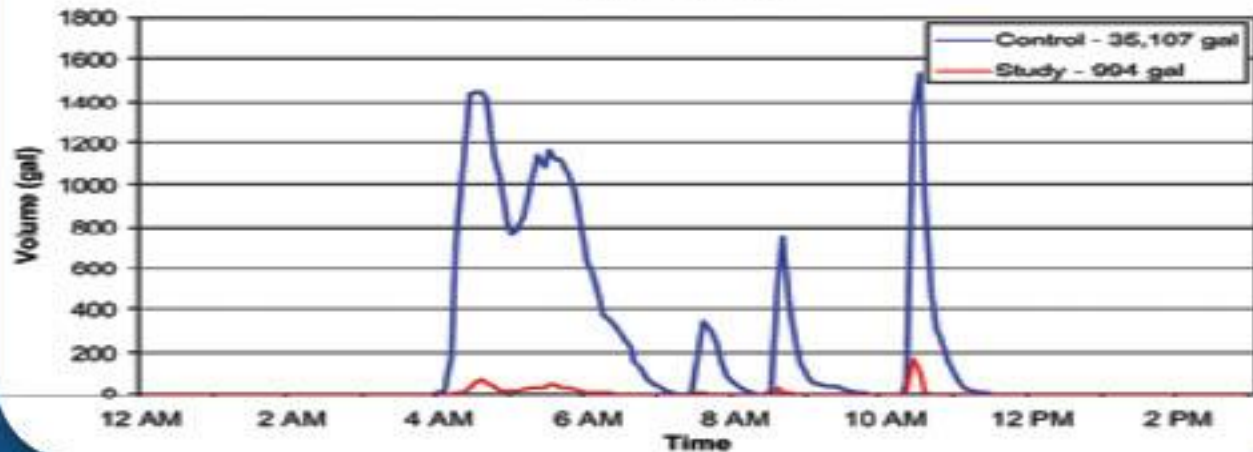
0.50" Rainfall



Post-Construction Runoff Data

May 29, 2004

0.71" Rainfall



Rain Gardens







Benefits of Rain Gardens

- Helps to protect & restore natural hydrology
- Allows rain to soak into the ground
- Traps pollutants



Midvale neighborhood rain garden



Thank You!

For more information:

clean-water.uwex.edu/pubs

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