Rain Barrels

Everything you wanted to know and more

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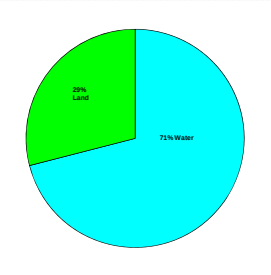
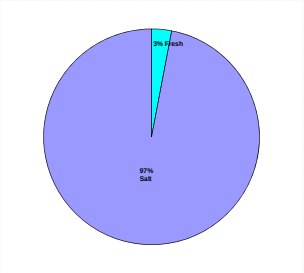
Water, water everywhere – Why bother collecting it?

- Presentation by Juli on amounts of water
- Newspaper Article

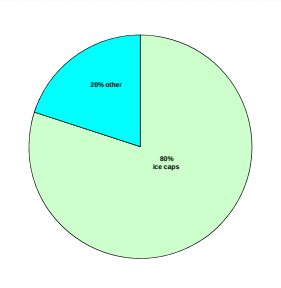
Total Land vs. Water on Earth



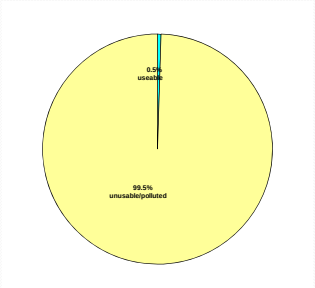
Fresh water vs. Salt Water



Ice caps vs. "flowing" water



Useable vs. Unusable water



Water use still under scrutiny

Published: 5/8/2008 in Daily Herald

Water could become a scarce commodity in the 11-county Chicago area in the coming decades, but how much so will depend on several variables.

The Chicago Metropolitan Agency for Planning has developed some scenarios and is zeroing in on recommendations. Whatever the findings, it's likely water conservation will become an important part of the equation.

Work to find the answers began in January 2006, when Gov. Rod Blagojevich signed an executive order calling for a statewide study of water supply issues.

In northeastern Illinois, the effort is led by the Regional Water Supply Planning Group, which consists of about three dozen people, from a variety of interests. Lake County officials recently were updated on the progress.

Demand will be determined, in part, by how much water new arrivals, power generators, industrial and commercial businesses and agricultural interests, including golf courses, expect to use.

"We're trying to understand what the demand might be out to 2050," said Tim Loftus, environmental planner with planning agency.

Various scenarios show water demand could remain relatively the same as today, with only a 2 percent increase.

"We would add 2 million people but we wouldn't grow or demand more water use," Loftus said. "This is doable. It's happened in Seattle, it's happened in Boston. This is really our goal."

The worst case scenario envisions a dramatic 59 percent increase in water use, or another 708 million gallons per day.

"We could potentially require the equivalent (amount of water used per day) of another Lake County," Loftus said.

That envisions no change in water efficiency, however.

"I like to say we don't have a water shortage problem here; we have a water waste problem in the region," he added.

CMAP is exploring more than a dozen water conservation measures, which are expected to be included in the regional water supply plan, due July 1, 2009.

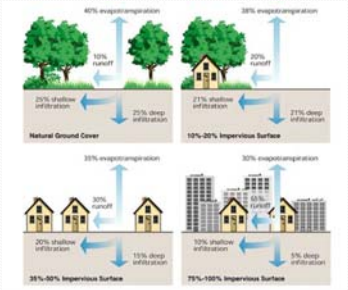
"I believe conservation will be the key to success here," said state Sen. Susan Garrett of Lake Forest.

One key missing element has been the amount of water actually available. Scientists from the Illinois State Geological Survey have been studying underground supplies and are expected to release findings in September.

Reasons to Collect Rainwater

- Conserves water
- Prevents flooding
  - Large amounts of water in a short time period
- Better quality water for your plants
- Other uses

Where does rain go?



Flooding

Regulatory requirements for detaining water

- County Stormwater Ordinance
  - Detention/Retention
  - Stormwater Fee
    - Potential credits for best management practices

Watering

Impurities in City Water

- Chlorine
- Fluoride
- Sodium
- Water softeners
- Bad for the plants, bad for the pollinators

Washing Clothes?

Washing your car!

Ever run out of water?

- Power outage
  - Wells running on electricity
- Water main break

Basic Concepts of Collecting Rain water

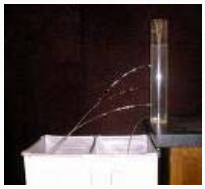
- Calculating volume
- Conversion to gallons
- Head pressure
- Weight of water

Calculating Volume – How big is your roof?

- Length x Width = number of square feet
  - 20 feet x 25 feet =500 square feet
- Translates to cubic feet at 1' depth
- Design for 1" of rain
- Number of square feet/12" per foot
  - 500 s.f. / 12" per foot = 42 cubic feet
- 7.5 gallons per cubic foot
  - 42 x 7.5=315 gallons of water!

Head Pressure

- Height of water = more pressure
- Combined with diameter = volume = gallons per minute



Higher the better

Weight of Water

- 1 gallon of water = 8.34 pounds
- 50 gallons x 8.34 pounds = 417 pounds

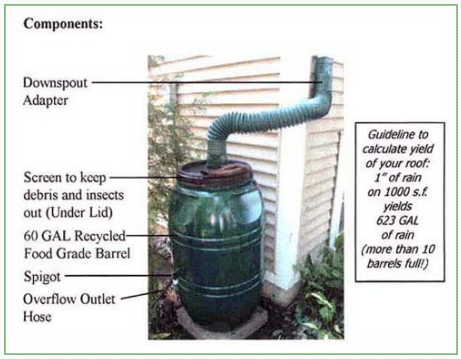
Don't overload your base!

One Ton held up by plywood and 2 x 4's!

Overwhelmed? - Start Small!

Parts of Rain Barrels

- Downspout connection
  - Cutting your downspout
    - Screws
    - Rivots
- Vessel
- Screen
- Spigot
- Overflow
- Base
- Additional vessels



Downspout connection

Switchable connection

Cutting your downspout

- Demonstration

Screen

- Keep Debris out
- Keep insects out
- Consider 2 sizes

Should cover all openings

Spigots

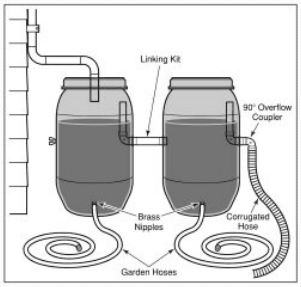
- Bigger is better!

Overflow and base

Clearance for filling containers

Cross Section of Rain Barrel

Linking barrels together and overflow



Linking barrels together

"Real do-it-yourselfers"

Constructing your rain barrel

- Premade Barrels
  - The Conservation Foundation
  - Mail Order/Online
  - Metropolitan Water Reclamation District

Conservation Foundation Barrel

Online Collapsible Barrel

Flexible Design

Aesthetic Design

Homemade or Premade?

Do it yourself

- Finding a suitable container
- Cutting the barrel
- Screening
- Connections

Common materials

Convert your barrels before someone else at home does!

Barrels can come in all shapes and sizes

Can't find one? Buy it online.

Drilling connection holes

Cutting out the top

Getting into your work

Beyond the basics

- Aesthetics
  - Painting
  - Planting
- Rain Chains
- Mosquitoes
- Animals
- Winterizing

Painted Barrels

Object d'art

More common artistic ability

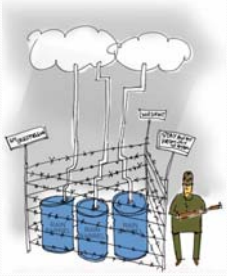
Rain Chains

Avoid using with good screens

"Effective and Fun"

Screens also keep critters out

Protect your barrels at all costs!



Winterizing

- Freezing rain barrels will break
- Disconnect downspout
- Turn barrel over

Out of Control

- I really hate it when my rain barrel overflows and I waste all that water

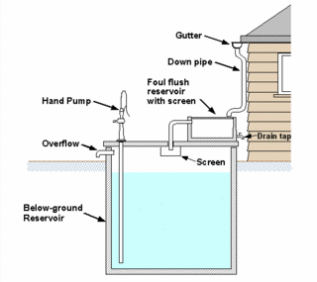
-or-

- When environmentally conscious becomes obsession

"Our roof size requires a bigger barrel"

"I don't care what the neighbors think"

"Look at these plans, we can hide most of it underground"



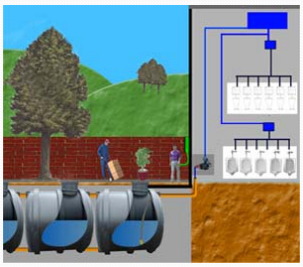
"At least it matches the house"

"Efficient"

"When one is not enough"

Basement bladder systems

Rain Harvesting



"No need to be ashamed of how much you like your rain barrel!"

Other ways to conserve water

- Low flow fixtures
- Not irrigating
- Shutting the faucet off
- Native trees and plants
  - Rain gardens

Next weeks topic - Composting