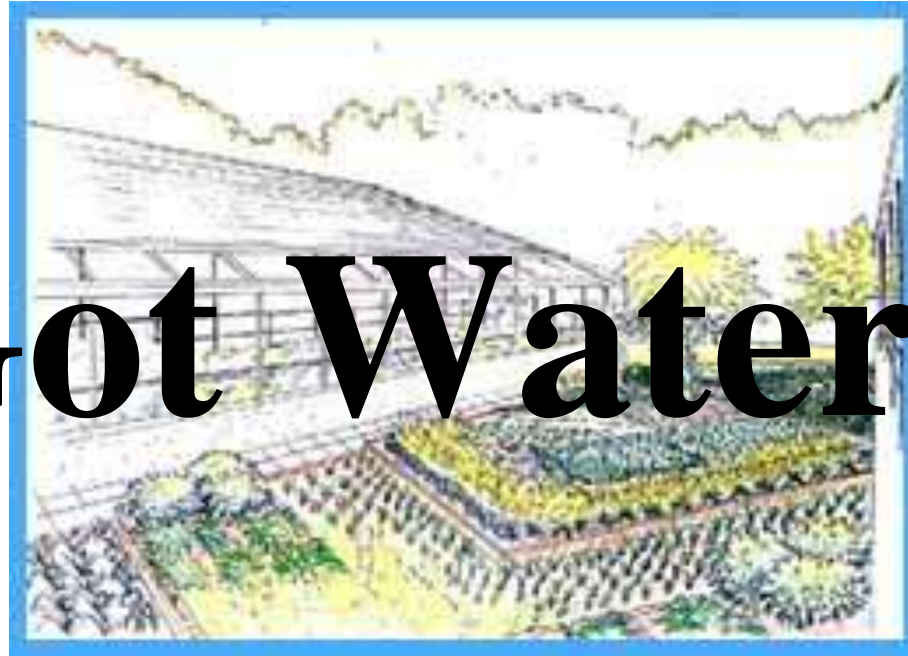


Got Water?



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General

The earth has a tremendous supply of water, but most is too salty for human consumption or for agriculture. We may consider desalinization removal of salt from seawater, but it will cost a lot of money.

Water Scarcity

Large-scale agriculture accounts for nearly two-thirds of the human population's use of freshwater. The rest is for drinking and industrial purpose.

Pollution

In the U.S., about fifteen thousand facilities partially treat liquid wastes from seventy percent of the population and eighty-seven thousand industries. The remaining wastes are mostly from suburban and rural populations. These are treated in lagoons or septic tanks or are directly discharged, untreated, into waterways.



Alternatives to Traditional Wastewater Disposal

Soil filters are combinations of soils rocks and gravel to filter the water. Microorganisms that live between the rocks then eat the wastes.

Wetlands act as a natural sponge, as they remove particles of sediments and metals through their extensive root masses and soils.

The most successful system is a hybrid of the wetland and the soil filters system. Known as the Hill/Marsh system. Its advantages are that it requires less building costs, because it uses no concrete or metal and once functional only requires minimal monitoring.

HILL/MARSH SYSTEMS



Water Alternatives at Calvin

The big question is, can Calvin College successfully employ any of these methods. While it would cost us $1/3$ to $1/2$ less to build this system and operating costs are at least $1/4$ to $1/5$ less, it comes down to one thing. These systems take up a lot of space. Something that Calvin College doesn't exactly have a large abundance of.

Water Use At Calvin

For the calendar year 1998, the water use for the Calvin College campus was 74,620 HCF or 55,815,760 gallons. The city bills sewer use as 100% of metered water use. The charges for that year were \$1.22 / HCF for water and \$1.69 / HCF for sewer giving totals of \$91,036.40 in water charges and \$126,107.80 in sewer charges, a combined total of \$217,144.20.

