

Re SB 1258: Discard the UPC model, use the state-of-the-art AZ/ NM/ TX tiered approach to greywater regulation

Dear Mr. Rowland,

February 24th, 2009

I am an ecological systems designer, and the author of three books on greywater.

It seems that the main stated argument against California greywater standards following the lead of Arizona, New Mexico and Texas into the 21st century is public health concern. But...

1) **Greywater has hundreds of times fewer pathogens than combined sewage. Logically, greywater systems could be hundreds of times less effective at sequestering pathogens from people and still be no more dangerous than septic or sewer systems.** (average of values from calculations, U of AZ study--see <http://oasisdesign.net/greywater/law/california/index.htm#references> for complete list of citations and calculations)

2) **The past several decades of greywater prohibition have inadvertently resulted in the construction of a rather large number of unpermitted systems. The quantity of those systems is vast (eight million in the US, 1.7 million in California)** and the experience long term, going back to the founding of the country. (Soap and Detergent Manufacturer's Association Graywater Awareness and Usage Study, a nationally representative sample of 61,377 households; 13.9% of which were using greywater in CA, the highest proportion of any state).

This has in effect served as a large-scale, long term, and fairly conclusive experiment on the epidemiological danger from unregulated greywater reuse.

There have been approximately a **billion greywater system-user-years of exposure in the US** since 1950, plus exposure to guests and neighbors. If one greywater user in 100,000 got sick and mentioned why, there would be 10,000 incidents on record.

In fact, **there is no record of a single documented instance of greywater-transmitted illness in the US**, according to the CDC. (By comparison, approximately 20,000 people were struck by lightning over the same time period).

It is certain that greywater risk is non-zero. It is possible that the risk from the average greywater system could be low enough to be unnoticeable in the background risk, yet still be of concern in the aggregate.

However, with such a vast quantity of systems, **there must be outlier systems that are several standard deviations riskier than the average that still number in the thousands. If even these have escaped notice, the implication is that the inherent risk must be very low indeed.** (One unfortunate Californian has been struck by lightning on seven occasions. That there is no analog for greywater incidents is quite instructive).

Of the 12 illnesses identified by WERF as potentially greywater-transmittable, 9 are reported to the CDC by legal mandate. Reportable illnesses have been tracked by all levels of our public health system since 1925. This serves as a more tightly run subset of the general greywater experiment. **There are over 100,000 instances of these 9 reportable sicknesses, per year, or several million total. If greywater were a significant transmission path, tens of thousands of alarms in the reportable illness system would have put public health officials on the track decades ago.**

The absence of reports of greywater-transmitted illness fits with the simple logic of point 1, and lends support to the Arizona/ New Mexico/ Texas regulatory approach. This holds that permits and inspections are not necessary for simple greywater systems (the people of California seem to agree: only one system in eight thousand is permitted).

Unless HCD can:

A) Prove that greywater systems are dangerous, in light of a billion system-user-years of real-world experience to the contrary


B) Prove that tight regulation (which deters licensed professionals but not homeowners) is better for public health than realistic guidelines that professionals would follow to improve the state's stock of systems

C) Produce a risk assessment that shows that in a world which may be out of usable water within our lifetimes, rigorous permitting of greywater systems is a priority use of regulatory and citizen resources

please shift from the failed UPC-style approach to the state-of-the-art Arizona/ New Mexico/ Texas tiered approach to greywater regulation.

A slightly improved version of the Arizona code that is a suitable starting point for new California tier 1 standards can be found at: <http://www.oasisdesign.net/greywater/law/#model>.

Sincerely,



Art Ludwig
Ecological Designer

