

Constituents of Emerging Concern

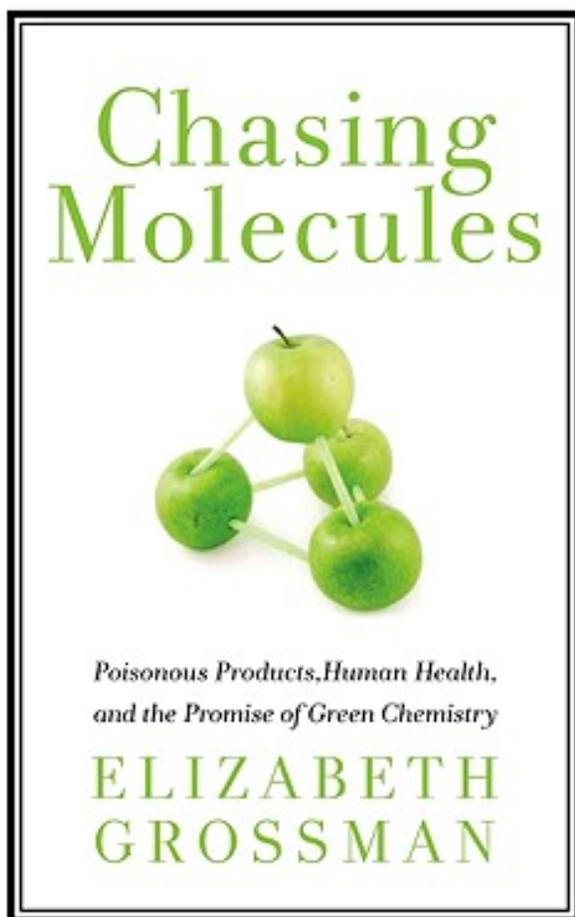
A Multi-Media & Committee Issue

BACWA Annual Meeting

Panel Discussion

January 28, 2010

Recommended Reading



● | Today's Panel Discussion

- Overview of CECs (a commentary)
- Meet the Panel
- Moderator Questions for the Panel
- Audience Questions

Frightening Chemical Statistics

- Every day the United States uses or imports about 42 million pounds of synthetic chemicals
- In 2008, 162 million pounds of reported pesticides were applied in CA
- In 2008, over 324 million prescriptions were filled at retail pharmacies in CA
 - That's almost 10 billion pills

● | Frightening Chemical Statistics

- More than 700 OTC medicines use ingredients and dosages that were available only by prescription less than 30 years ago.
- There are approximately 1,000 active ingredients used in the more than 100,000 OTC products available in the marketplace.

Remember Your Physics?

- The law of the conservation of matter: matter cannot be created or destroyed
- All those chemicals are going to reside somewhere in our environment.

POTW Treatment Technology

- Most POTWs employ 1970's treatment technology established by the Clean Water Act.
- POTWs were designed in the 1970's to remove pollutants typical of that era.
- Since that time, there have been millions of new chemicals synthesized.

● | Is it Really Any Wonder



that we're finding significant quantities
of chemicals in our wastewater,
waterways and drinking water???

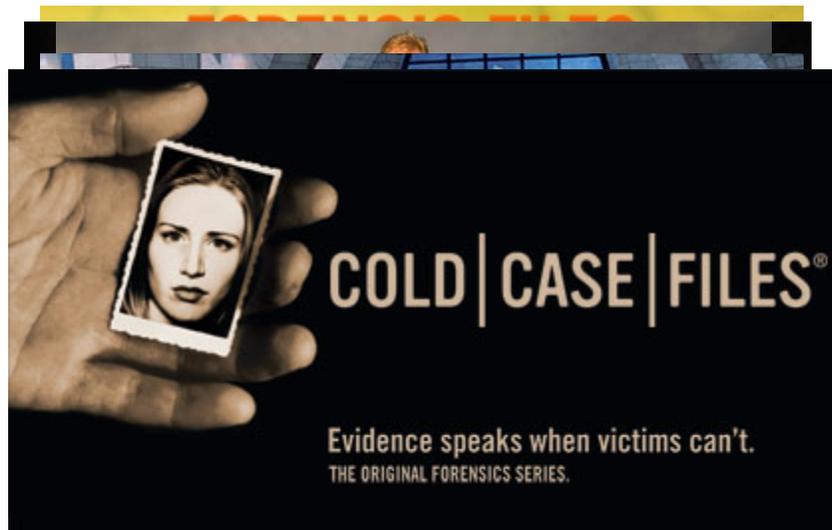
Common Sense Tells Us



With increasing volumes of chemicals being produced and more sensitive laboratory detection methods being developed, it is inevitable!

Isn't it Ironic?

Americans have been fascinated with the CSI TV shows and the concept of Forensics, where a criminal always leaves traces behind.



By the Way...



The general public thinks that 1 ppb is a higher concentration (worse) than 1 ppm, because billion is larger than million

- \$1 vs. \$1,000

● There's Clearly Been a Disconnect



Until... March 10, 2008

EVERY NEWSPAPER IN US

AP Probe Finds Drugs in Drinking Water

Norris Center for the Performing Arts, 27570 Crossfield Drive in RHE, on Saturday, March 20 at 2 and 4 p.m. Tickets are \$38 for adults and \$19 for students for the evening performance and \$30 for adults and \$15 for students at the matinee performance. For reservations, call 544-0403.

• UPCOMING — The Palo Verde Peninsula Unified School District and Friends of School Music host the 15th Palo Verde Elementary Choral Festival on March 23, 24 and 25 at the Norris Center for the Performing Arts, 27570 Crossfield Drive in RHE. All shows begin at 7:30 p.m. For tickets, call the Norris box office at 544-0403.

• ONGOING — The Distinctive Edge, 29050 S. Westcott Ave., Suite 113 in APW, continues "Third Time's a Charm," an exhibit of 3-D collages by artist Steve Jacobson, through March 30. For gallery hours, call 833-3613.

• ONGOING — "Natural Treasures" exhibition contin-

Two years ago, U.S. Navy personnel and their families assigned to the Atsugi Navy base, home of the U.S.S. Kittyhawk, were treated to a rare experience when Terry Fleming and his local Irish/American band, Innisfree, traveled to the base to entertain them on St. Patrick's Day. Fleming and the other five members of Innisfree were delighted and honored to be able to go to Japan and lift the spirits, if only for a few hours, of the Navy personnel and their families.

For the third year in a row, Fleming — a local insurance broker in Rolling Hills by day and an entertainer by night — and the band travel to entertain the Navy men, women and families at various bases throughout Japan.

Fleming, the leader of the band on accordion and harmonica, actually is the only member of the band from Ireland. Other members include lead singer Julie Delaney, a civil engineer in Newport Beach; Terry Doyle, guitarist, a news director with CBS news; Denis Doyle, Celtic harpist, a professor at Glendale College; Kevin Weed, keyboards and bagpipes, music

teacher and assistant director of the Orange County Symphony; and Mike Tiffany, bass, a computer engineer. The band has been playing the length and breadth of California for the past 25 years. They have played at pubs, wakes, weddings, birthdays and on occasions where there was little excuse for throwing a party.

Fleming says it was by coincidence the band got the opportunity to travel to Japan. Another band was unable to travel at the last minute and so he and his band were offered the opportunity to go in their place.

With some trepidation they made their first trip and with the overwhelming response they received at Atsugi, any fears they had were quickly allayed. On a damp St. Patrick's Day, hundreds of families, clad in many shades of green, whooped it up, sang their hearts out and danced up a storm. As the evening wore on, many in the audience were emboldened to try their hand or foot at the Irish gig, with much encouragement from the band.

Even though far from home, the Atsugi base — situated a few hours

south of Tokyo — felt like home away from home, with its lush green rolling landscape and its multitude of cherry blossom trees. "Yet," Fleming says, "one was struck by the commitment and dedication of our men and women in uniform as they played their part in protecting and serving in an ever challenging and hostile world."

A couple of the families even took time out from their busy schedule to host Terry and the band members. They treated them to a guided tour of the base and accompanied them on a few exciting trips off the base, visiting beautiful ancient temples, monuments and several giant Buddha.

On a visit to downtown Tokyo, the band came across what they assumed was a very rare sight, a place called "Scruffy Murphy," an Irish pub located in the heart of a bustling downtown. Upon checking the establishment out, they discovered a real authentic Irish Pub with excellent Guinness and good pub grub. It also happened to be open six nights, so the band members took over the stage

and entertained the locals for a few fun-filled hours. It turned out that it was just one of many establishments in the city.

A special bond developed between the band members and these families and already exchange visits have occurred when the same families were on leave in the United States.

For more information about the band, log on to www.innisfreeband.com.

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Constituents of Emerging Concern (CECs)

- Pharmaceuticals
- Personal care products
 - Antibacterial agents (Triclosan)
- Pyrethroid pesticides
 - Result of product substitution
- Flame retardants
- Plasticizers
 - Phthalates, Bisphenol A

CECs in Wastewater

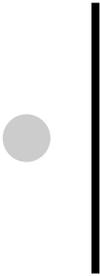
- CECs are present in minute concentrations throughout the wastewater treatment process
 - Influent, effluent, solids, recycled water
- Because of this, the issue of CECs is being addressed by most BACWA Committees

Meet the Panel

- Karin North
- Associate Engineer with the City of Palo Alto's Regional Water Quality Control Plant
- Representing BAPPG

Meet the Panel

- Eric Rosenblum
- Division Manager at South Bay Water Recycling
- Representing BACWA's Recycled Water Committee



Meet the Panel

- Natalie Sierra
- Process Engineer with SF PUC
- Chair of BACWA's Biosolids Committee

Meet the Panel

- Susan Klosterhaus, Ph.D.
- Environmental Scientist with SFEI
- Member of Emerging Contaminants Workgroup

- | Moderator Questions

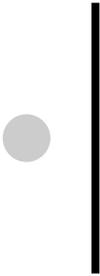
- | Audience Questions

Final Thoughts

- The issue of CECs belongs to everyone.
- Upstream reform is needed!

A Call to Action

- Support the EPA's
 - Chemical reform efforts
 - Harmonization efforts between Office of Water and Office of Pesticide Programs
- Support the DTSC's Green Chemistry Initiative
- Support Product Stewardship Initiatives
 - CA Product Stewardship Council
 - Product Stewardship Institute



A Call to Action

- Support the Federal legislative efforts to amend the Controlled Substances Act to remove hurdles to collecting all unwanted pharmaceuticals

Acknowledgements

- BACWA Board
- Michele Pla
- Amy Chastain
- The Panelists