

Pesticides, Stormwater, and the Regulatory Merry-Go-Round

By

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Sept. 12, 2007



THE FUNDAMENTAL ISSUE



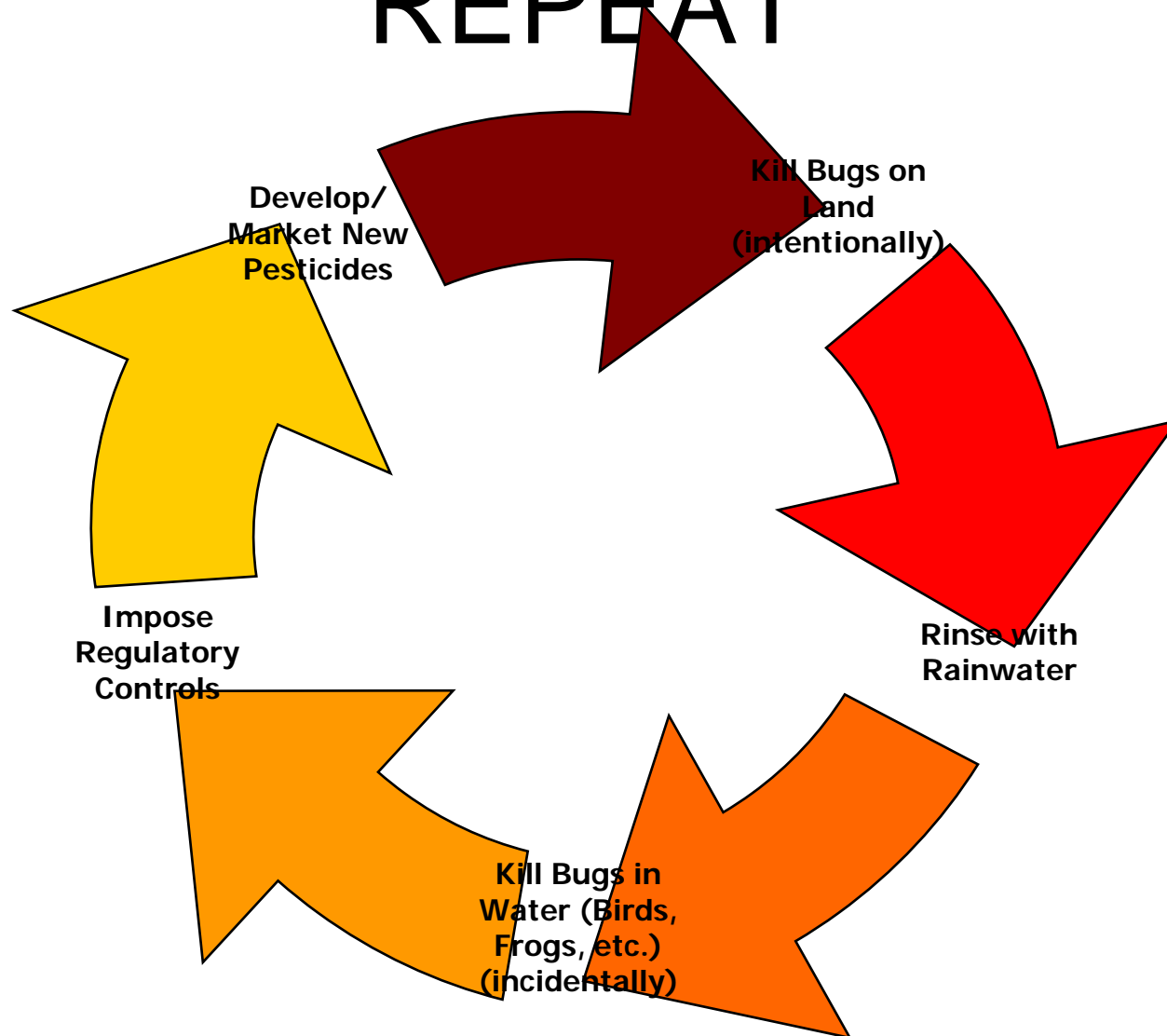
- People don't like bugs
- Chemical companies make pesticides and sell them to...
- People, who use pesticides to kill bugs

UNFORTUNATELY:

- Rainfall washes pesticides into surface waters, where they harm aquatic life
- Pesticides are good at killing bugs in water, too (duh)



CURRENT REGULATORY SCHEME: APPLY-RINSE-REPEAT



WATER QUALITY IMPACTS

- Overview/examples of recent findings:
 - Pesticides in surface waters
 - Aquatic toxicity
 - Pesticides in sediments
 - Sediment toxicity
- Lead to 303(d) Listings; TMDLs

WHO PAYS THE BILL FOR TMDL IMPLEMENTATION?

- Dischargers:
 - MS4s
 - Agriculture

Who are using approved pesticides!



REGULATORY BREAKDOWN

- USEPA/FIFRA (Pesticide Registration)
 - Ineffective in preventing water quality impacts (OPP and OW disconnect)
- CA Department of Pesticide Regulation (DPR)
 - Gets involved after approval/use
- TMDLs (Clean Water Act) – Post-impact

EXAMPLES OF PESTICIDE TMDLS

- California's Central Valley, SF Bay area, and San Diego
 - all deal with already-restricted pesticides: diazinon and chlorpyrifos
- Some changes occurring...

FEDERAL RESTRICTIONS THROUGH THE YEARS

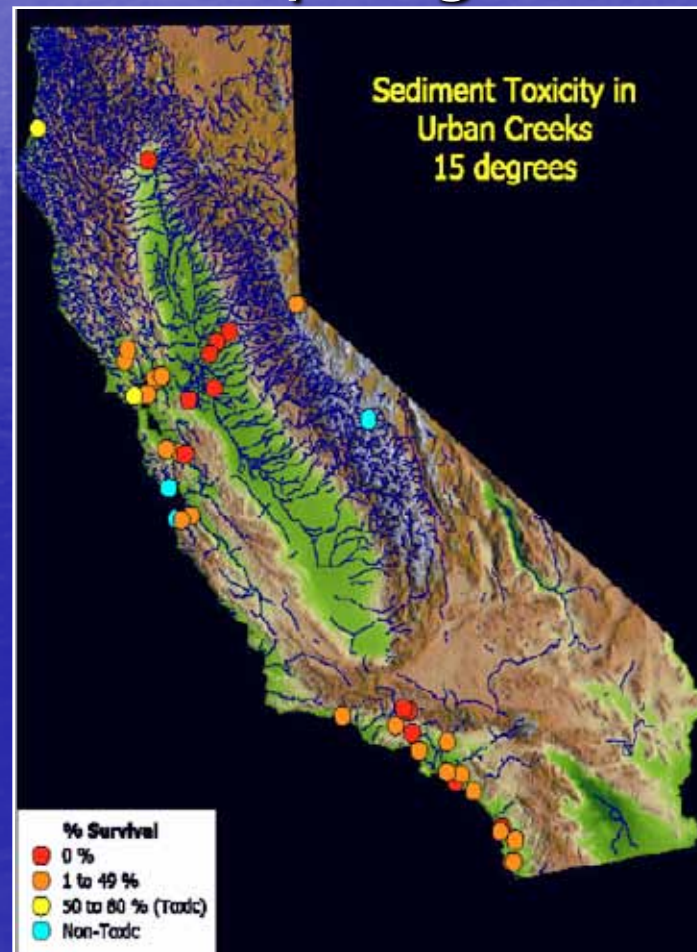
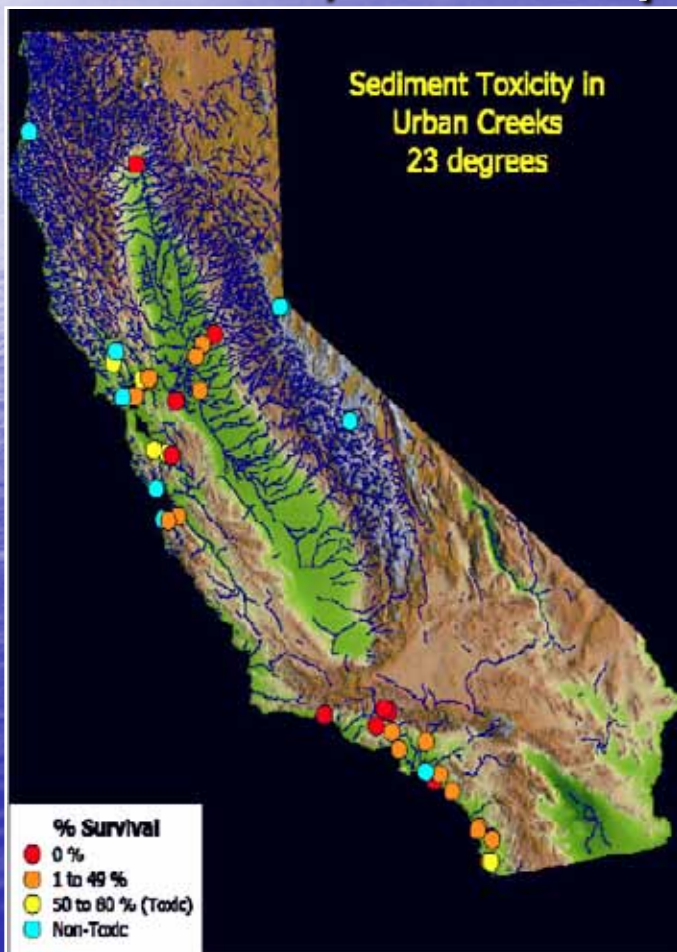
- DDT, OCs – 1970s
- Diazinon, Chlorpyrifos – late 1990s
(latter due to their known effects on
human health)

PESTICIDE INDUSTRY RESPONSE - RECENT CASE

- Replace diazinon and chlorpyrifos with different active ingredients approved by USEPA (pyrethroids), continue selling products to urban consumers
- Will likely lead to new 303(d) listings, TMDLs

SEDIMENT TOXICITY IN CA

- Don't know yet if pyrethroids play a role, final report due Spring 2008



From:
California's
Surface
Water
Ambient
Monitoring
Program
(SWAMP;
R. Holmes/
UPC 7/19/07)

KEY MOMENTS IN RECENT CA HISTORY:

- *Mid-1990's:* OP (esp. diazinon) found to cause toxicity in streams affected by urban runoff
- *Late 1990's:* Urban Pesticide Committee (UPC) formed: forum for discussion of pesticide/stormwater issues, vehicle for funding of essential research into pesticide use patterns and environmental effects (UP3)
- *Early 2000's:* USEPA limits urban uses of diazinon and chlorpyrifos due to human health concerns; manufacturers switch to pyrethroids
- *Early-mid 2000's:* first TMDLs adopted for OP pesticides (Central Valley, SF Bay Area)
- *Early-mid 2000's:* Research documents toxicity due to pyrethroids *in sediments* of streams receiving urban and agricultural runoff

WHAT IS NEEDED?

- A comprehensive federal/state regulatory process to limit allowable uses of potentially-harmful pesticides *before* environmental impacts occur.
 - Water quality must be considered in initial approval process; risk assessment and modeling must be performed.
- AND in the meantime:
take matters into our own hands!

SOURCE CONTROL IS ESSENTIAL

- Costs of end-of-pipe treatment are exorbitant
- "Start at the source" =
manufacturing & consumer
(supply & demand)
(aka: chicken & the egg)

SUGGESTED SOLUTIONS; SIGNS OF PROGRESS

- UPC/UP3
- IPM
- Green Building Movement
- DPR Process
- SFBRWQCB, CASQA Advocacy
- USEPA Process

URBAN PESTICIDE COMMITTEE (UPC)

- Key source of topical research, forum for discussion, dissemination of information
- Excellent resources available through UP3 Project (see: www.up3project.org/)
- Developing and providing tools and resources for IPM contracting is a priority (Laura Speare)

INTEGRATED PEST MANAGEMENT (IPM)



- Receiving state support; see:
 - UC Statewide IPM Program
(www.ipm.ucdavis.edu/index.html)
- EcoWise Certification gaining ground
 - Interest in IPM certification at the Structural Pest Control Board and PCOC.
 - Grant from USDA through Western IPM Center
 - Funding through SWRCB
- Local/regional efforts succeeding; see e.g.:
 - Our Water Our World
(www.ourwaterourworld.org/)

GREEN BUILDING

- Integrating native plantings, IPM, water conservation, etc.
- Low Impact Development (LID)
- Leadership in Energy and Environmental Design (LEED) Certification
- State/Municipal initiatives (e.g., Green California: www.green.ca.gov)

DEPARTMENT OF PESTICIDE REGULATION (DPR)

- Newly involved in assessing water quality impacts
- Dialogue opened with stakeholders re: water quality
- Pesticide Registration & Evaluation Committee (PREC)
- Urban Pesticide Management Working Group

CASQA

- Formed Pesticides Subcommittee
- Got involved to represent interests of NPDES permittees (last line of defense)
- Advocacy, policy development

USEPA – THE FINAL FRONTIER

- Ongoing efforts to get Office of Pesticide Programs and Office of Water to communicate effectively/ cooperate have shown some progress
- Much more needs to be done

HOW CAN WE HELP?

- We (local/regional agencies/organizations can:
 - Contribute data (evidence)
 - Advocate for water quality
 - Act locally (education/outreach)
 - Support IPM

OPPORTUNITIES FOR INPUT/INVOLVEMENT

- Attend/Participate in:
 - CASQA Pesticides Subcommittee
 - UPC (meets in Oakland; can attend by phone)
 - TMDL Hearings at Water Boards
 - DPR Committee Meetings
- PANNA – Respond to PAN Alerts
- Support Local Stormwater Programs
- Learn about IPM and Implement in Your Own Backyard (e.g. through Our Water Our World)

KEY RESOURCES

- UP3 Project: www.up3project.org/
(*sign up for UPC e-mail list*)
- PANNA – Pesticide Action Network:
www.panna.org/
 - Esp. PAN Pesticides Database:
www.pesticideinfo.org/Index.html
- Beyond Pesticides:
www.beyondpesticides.org/
 - Esp. Gateway on Pesticides Hazards:
www.beyondpesticides.org/gateway/index.htm
- CA Dept. Pesticide Regulation:
www.cdpr.ca.gov/

COMMENTS/QUESTIONS

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(Lots of Useful Links)

