

PPCPs in Water Supplies Neighboring Urban Areas

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Introduction

- What are PPCPs?
- Sources of PPCPs
- Growing Concern
- Urban and Rural Issues
- Example DeKalb
- Prevention of PPCP contamination

What are PPCPS?

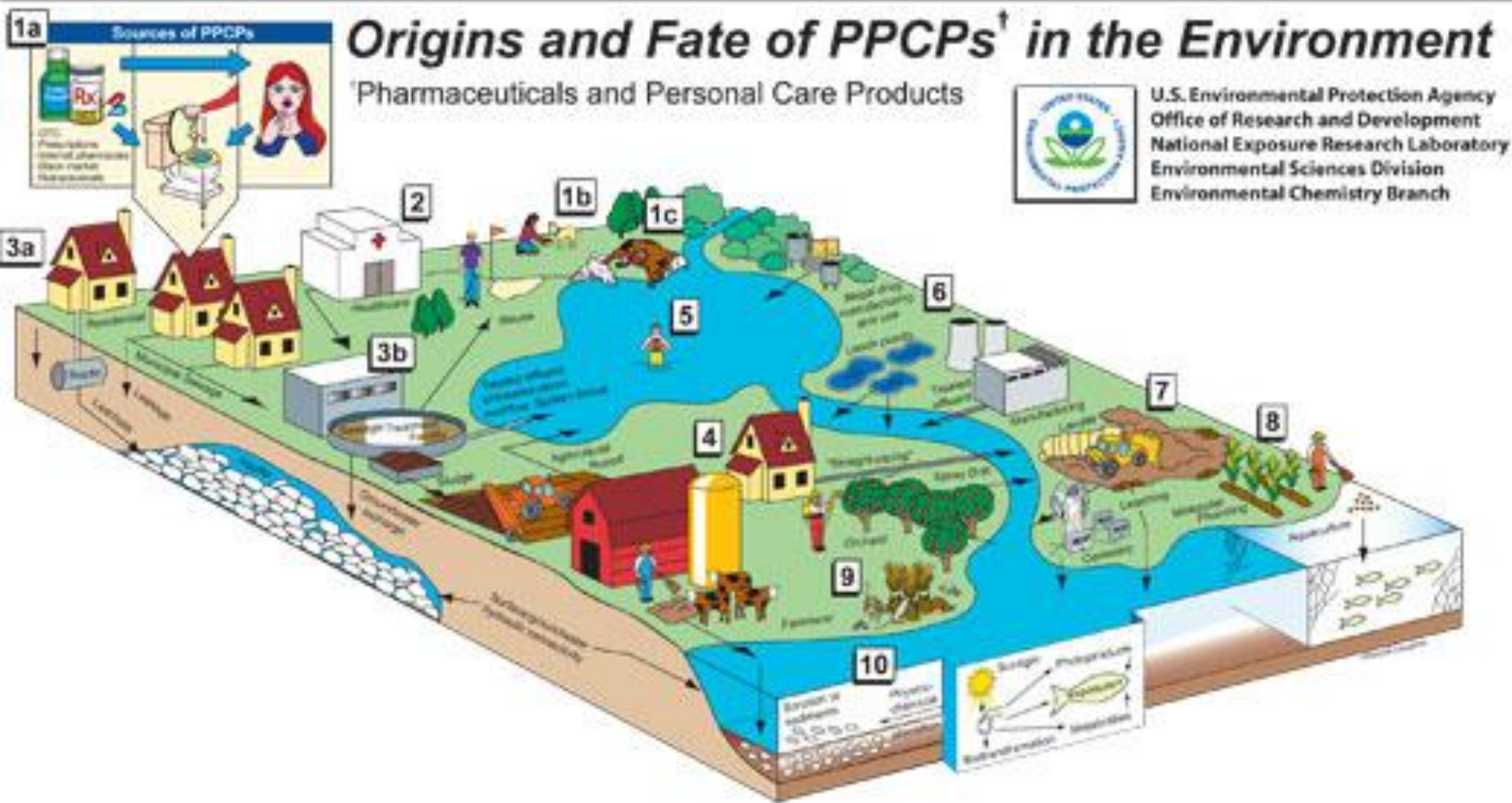
PPCPS or
Pharmaceuticals
and Personal Care
Products



PPCPs

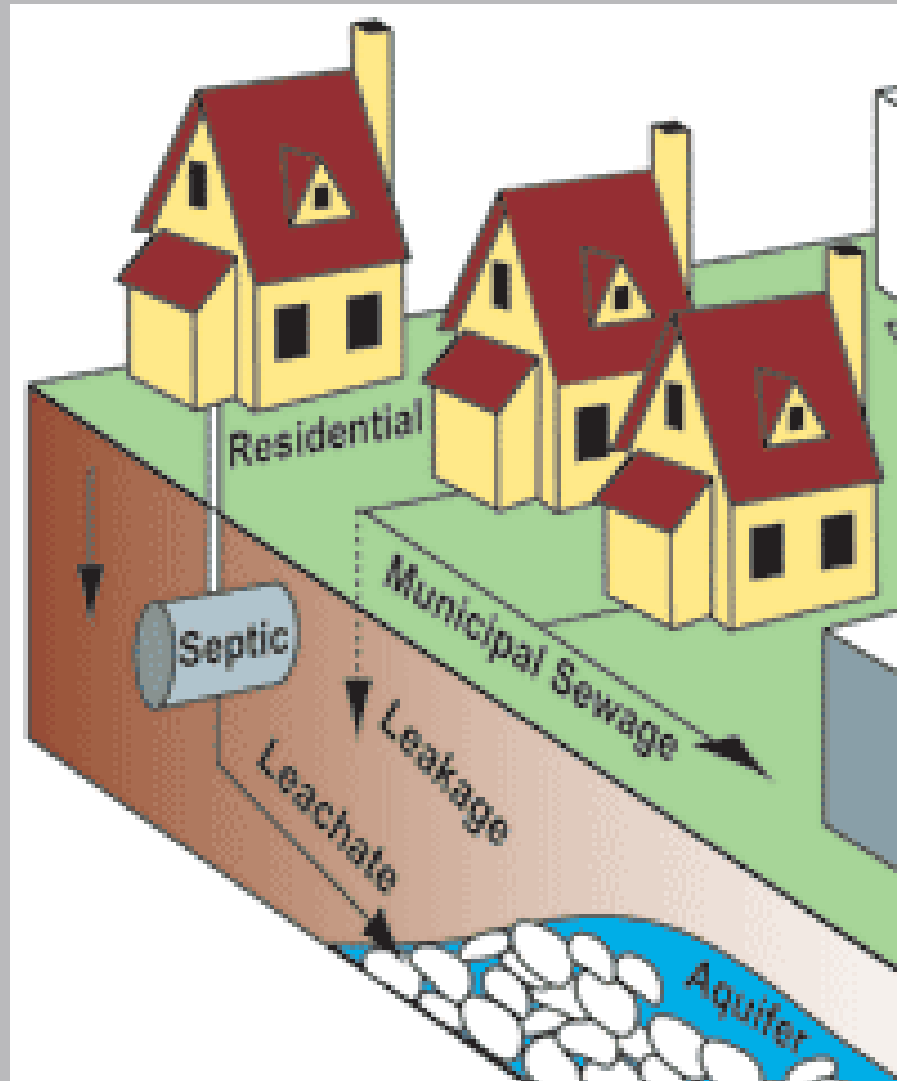
- Prescriptions
- Veterinary drugs
- Fragrances
- Cosmetics
- Sun-Screen Products
- Diagnostic Agents
- Nutraceuticals
- Hormones

Sources of PPCPs



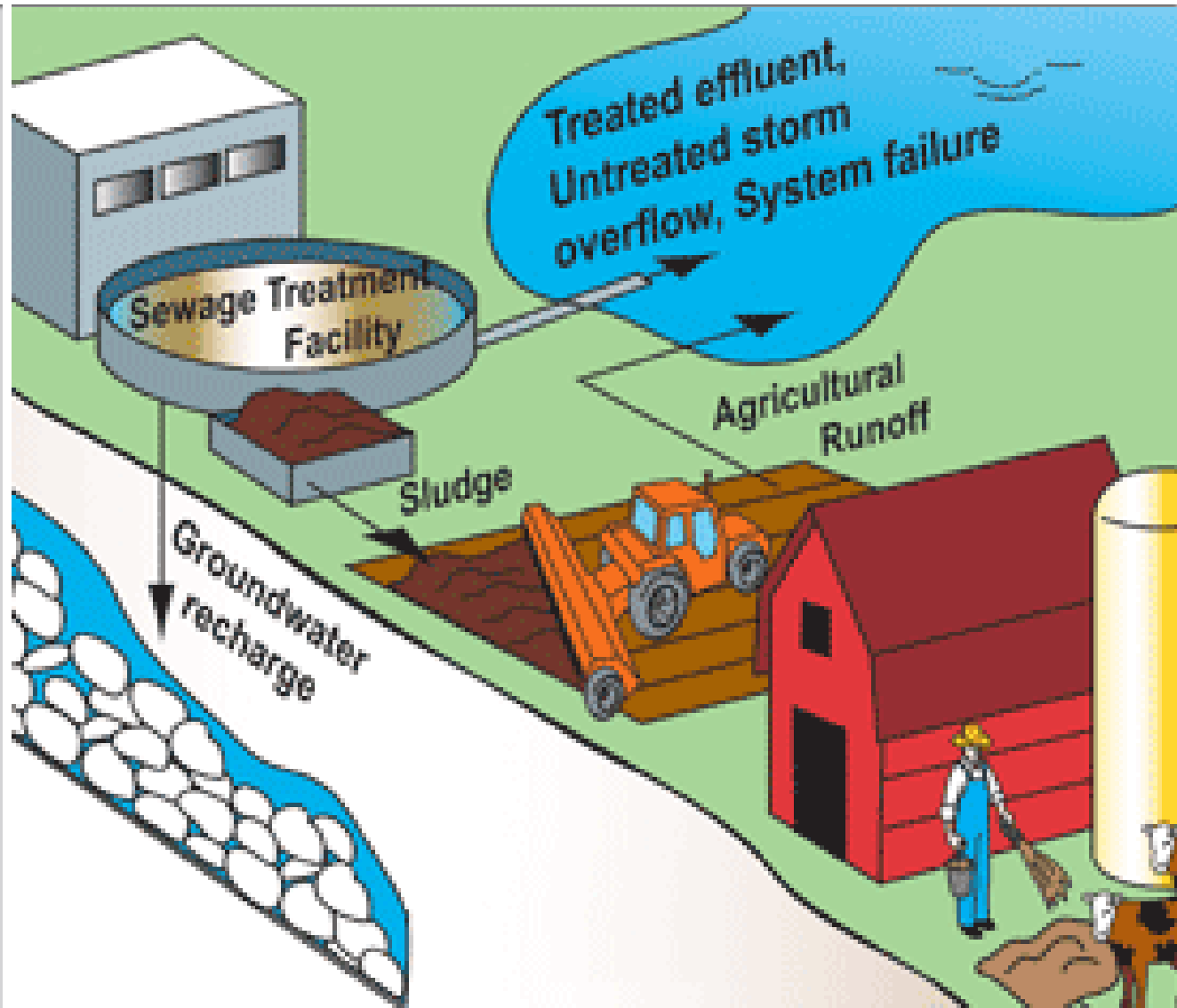
Sources of PPCPs

- Residential Sources



Sources of PPCPS

- Municipal Sources
- Agricultural Sources



Growing Concern Of PPCPs

Effects of PPCPs

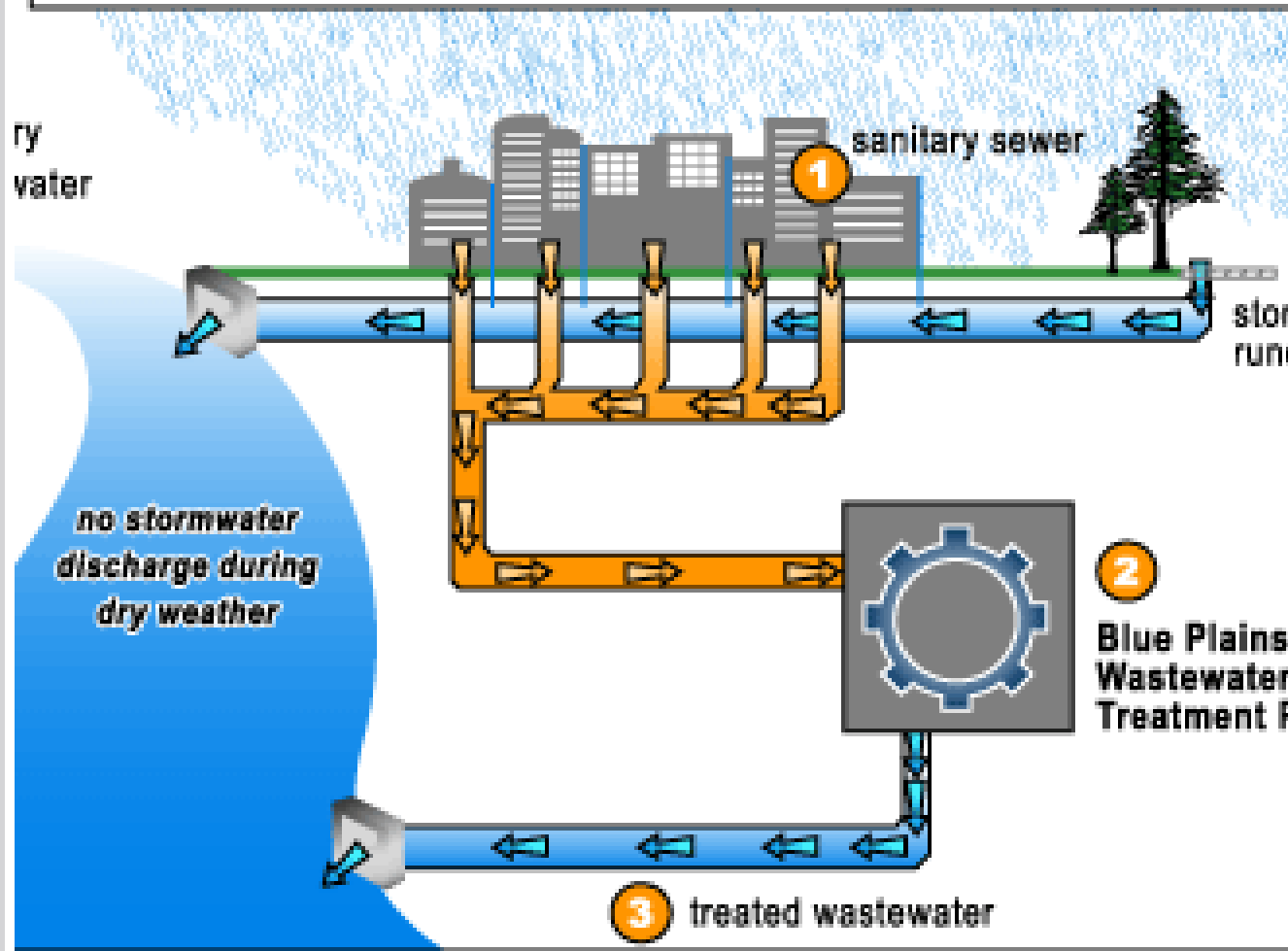
- Exact effects are unknown, however the research is still underdeveloped.
- 9 ongoing EPA assessments into the ecological effects that will all be finished in 2014

Urban vs. Rural concerns

Urban PPCP Sources

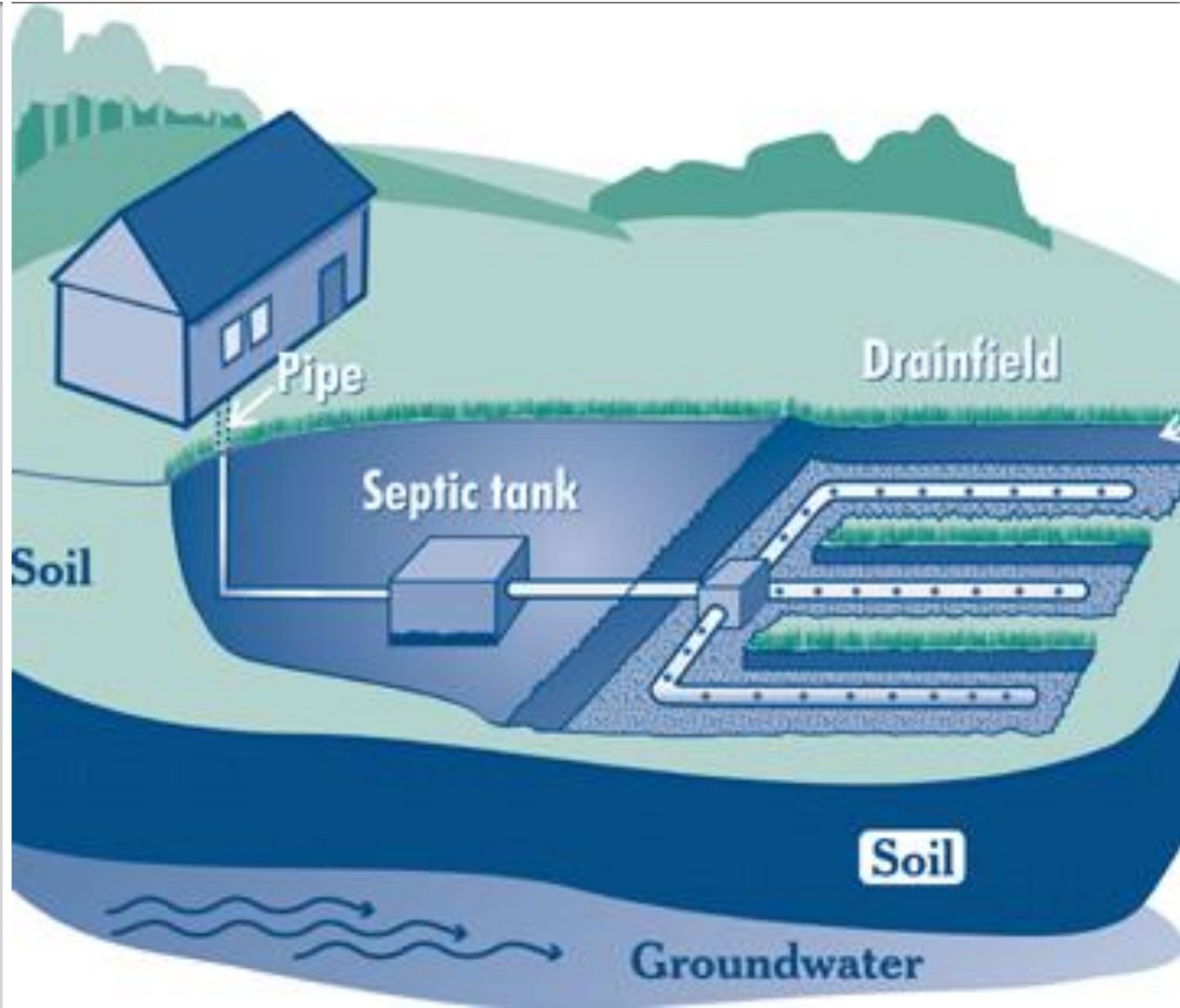
- Sewer Systems
- Treated Effluents

SEPARATE SANITARY & STORMWATER SEWER SYSTEMS



Rural PPCP Sources

- Septic Tanks
- Agricultural Run-off



College towns

- Can encompass elements of both Rural and Urban centers.
- Fluctuating water rates



Example: DeKalb, IL

- Northern Illinois University
- Consistent year round water use
- Elevated contaminant levels during Fall, Winter, and Spring Months



PPCPs: FDA stance

- Originally FDA stance on leftover drugs was to flush them down the Toilet.
- Trace amounts of PPCPs began to appear in surface bodies of water.
- FDA still has the stance that powerful narcotics(Morphine, Nicotine Patches) should be flushed because of the strength of these drugs.

What an individual can do to help

- Properly dispose of Prescriptions
- Use Personal Care products that do not have harsh chemicals
- Conserve use of PPCPs

Properly disposing of Prescriptions

- Follow any specific instructions on the drug (eg, needles) that accompanies the drug.
- Use community drug take back programs, contact your cities trash and recycling service for more information on specific towns
- If no instructions given on the medication, mix the drug in with an undesirable substance
- Place mixture into a sealable bag and the drug can be disposed of in household trash
- Do not flush prescriptions down the toilet!

What Farms can do to prevent PPCP contamination.

- Use waste collection barrels.
- Cover them to prevent run-off
- Keep better track of Septic Tanks and Drainage tiles



What Cities can do to prevent PPCP contamination

- Reduce leakage from municipal sewer systems.
- Add tertiary testing and treatment systems



References

- Images from the US EPA and Northern Illinois University.
- More data on PPCPs can be found at <http://www.epa.gov/ppcp/>

Questions?
