

Water Quality

Promotores Training



Vickie Leonard, RN, FNP, PhD

Program Coordinator

Western States Pediatric Environmental Health
Specialty Unit

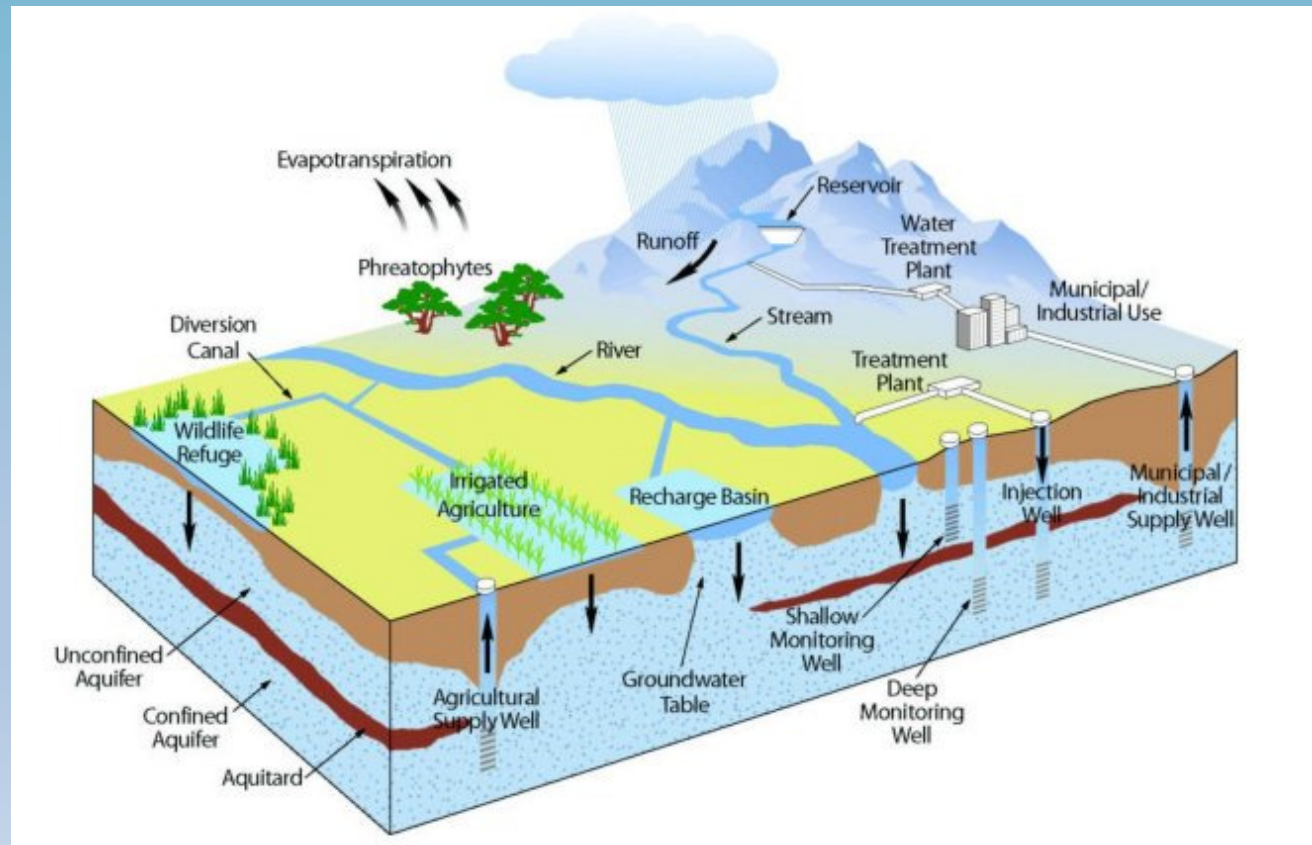
University of California, San Francisco

Water quality: What are the concerns?

- Where does our water come from?
- Will there be enough water?
- What is in our water??

Where does our water come from?

- Groundwater
- Surface water

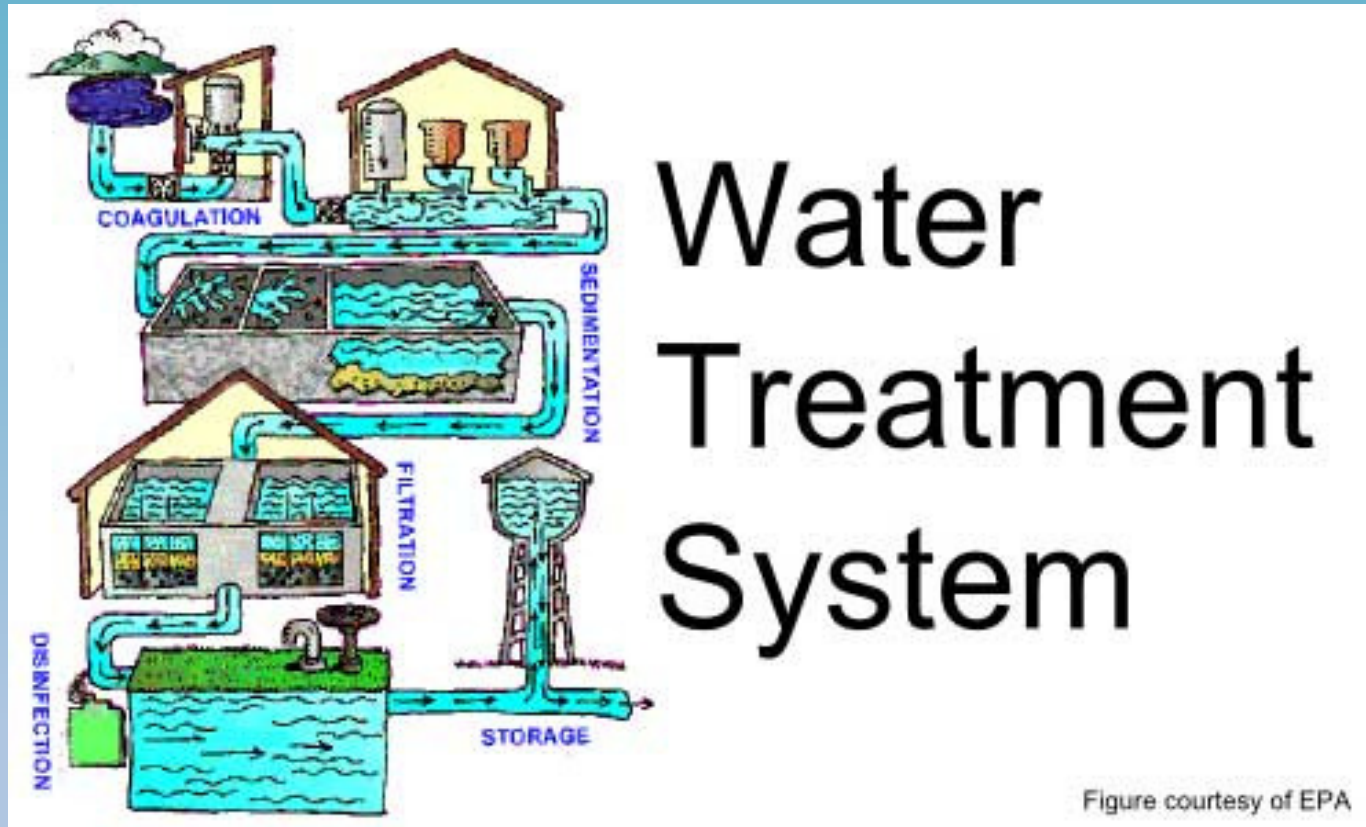


Well Water

- Source is groundwater
- Not tested by health department or county.
- Homeowner must test.



Water from a public water system



What if you rent?

- Ask your landlord whether you have well water or water from a public water system.

Bottled water

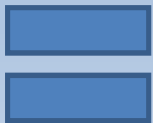
- Does not undergo the same testing and reporting as water from a Public Water System.
- Is expensive.
- Chemicals can leach from the plastic.



Will we have enough water?



DROUGHT!



Why should we be concerned about our water?



Dangers of lead and arsenic poisoning

Arsenic poisoning

Nerve damage

Skin damage:

- Hyperkeratosis (scaling skin)
- Pigment changes

Increased cancer risk:

- Lung
- Bladder
- Kidney and liver cancers

Circulatory problems in skin

Lead poisoning

High levels of lead

- Mental retardation, coma, convulsions and death

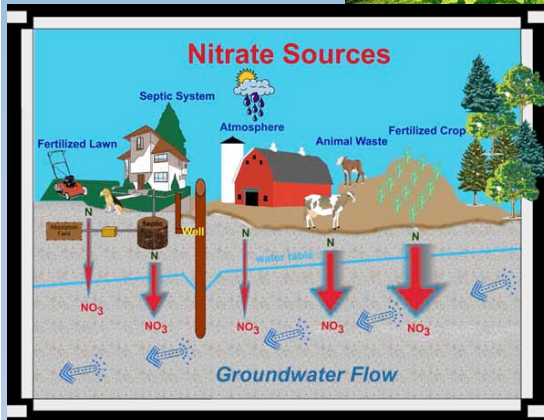
Low levels of lead

- Reduced IQ and attention span, impaired growth, reading and learning disabilities, hearing loss and a range of other health and behavioral effects.



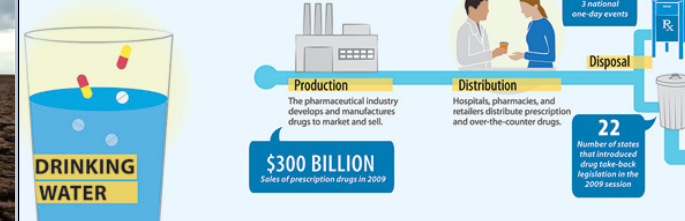
Sources: Alliance to End Childhood Lead Poisoning and news wires

The Denver Post



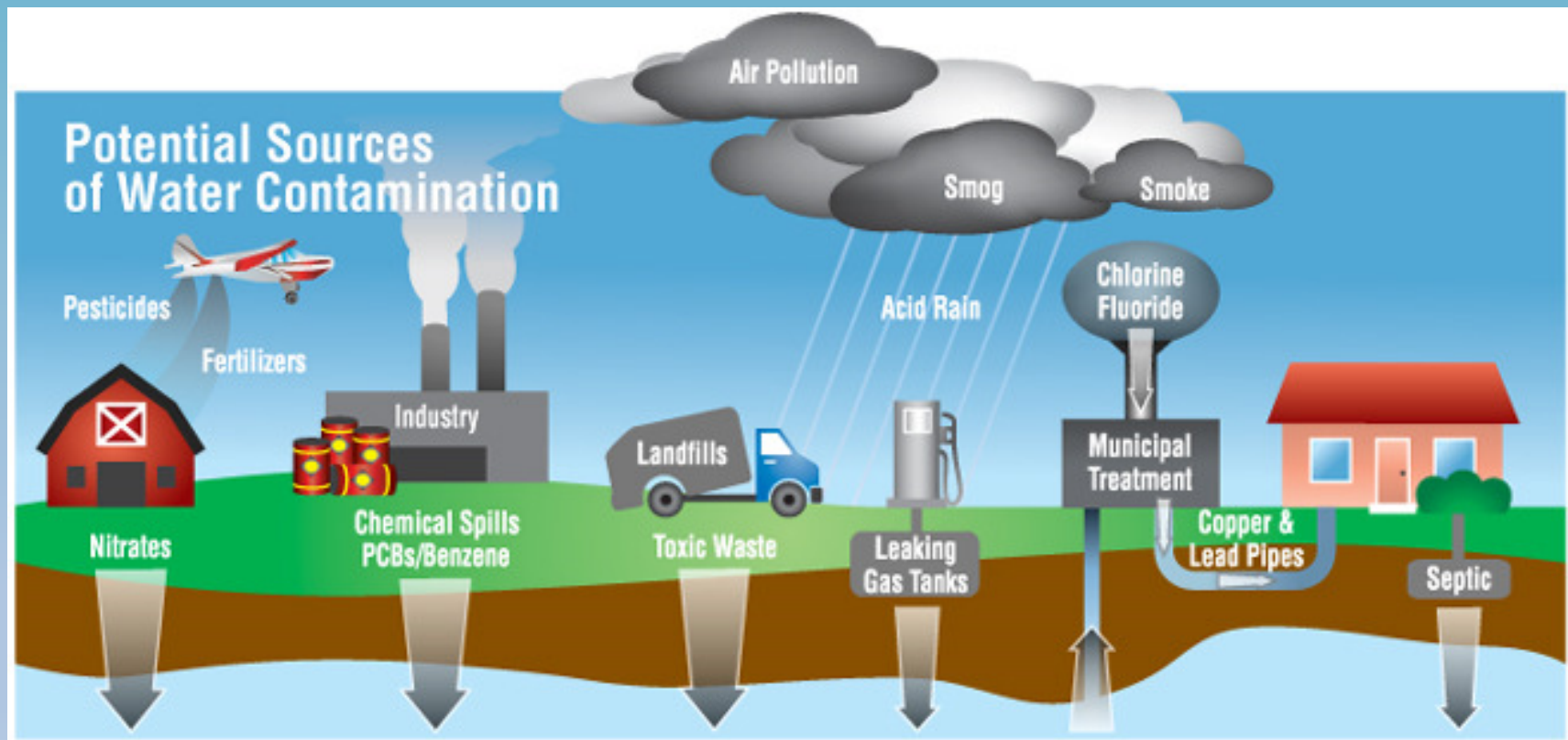
UNPRESCRIBED: DRUGS IN THE WATER CYCLE

Hundreds of researchers are studying the environmental and human effects of residual pharmaceuticals in water supplies, which are not yet regulated, though the U.S. Environmental Protection Agency considers them an "emerging contaminant."

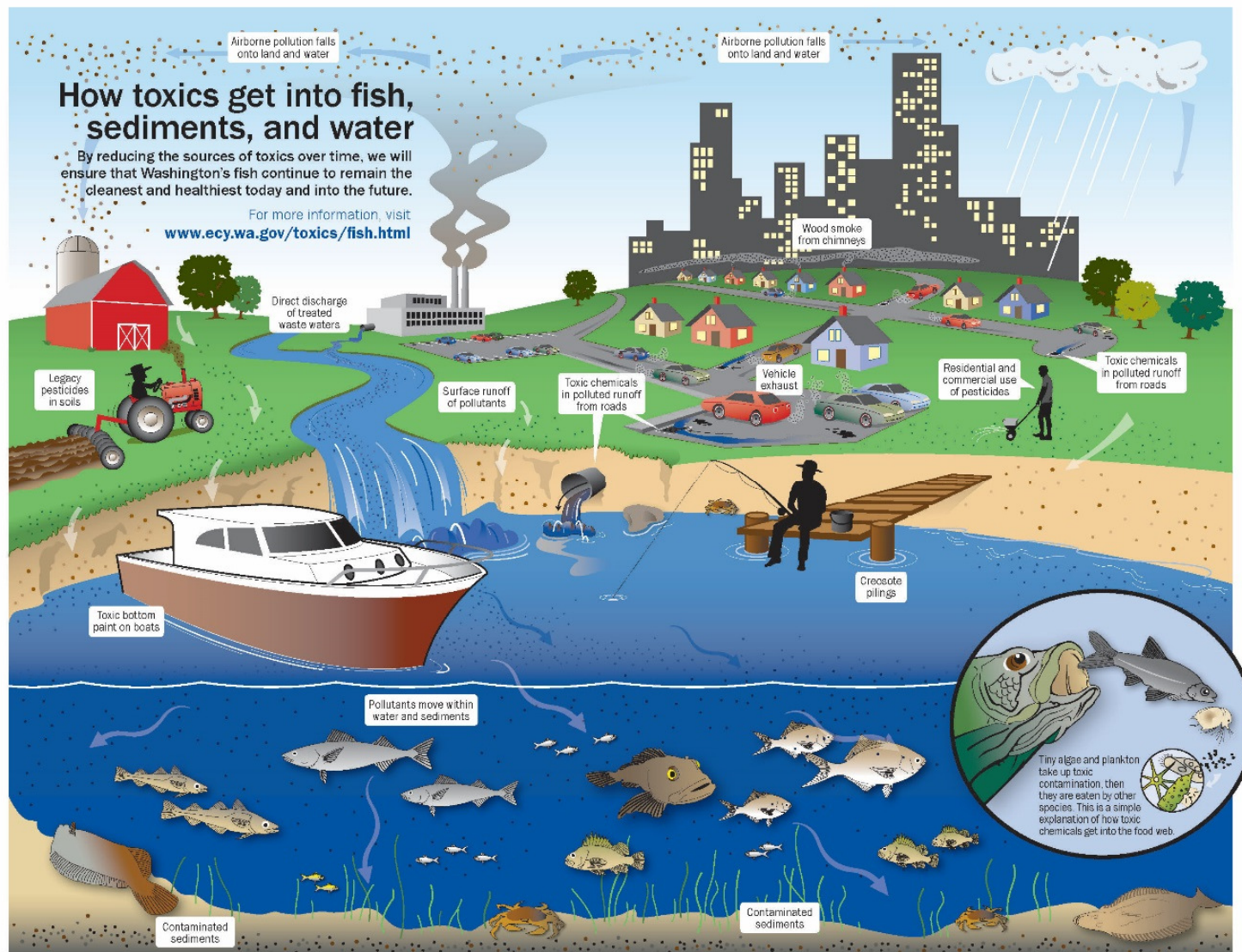


Infographic © Kelly Shea / Circle of Blue

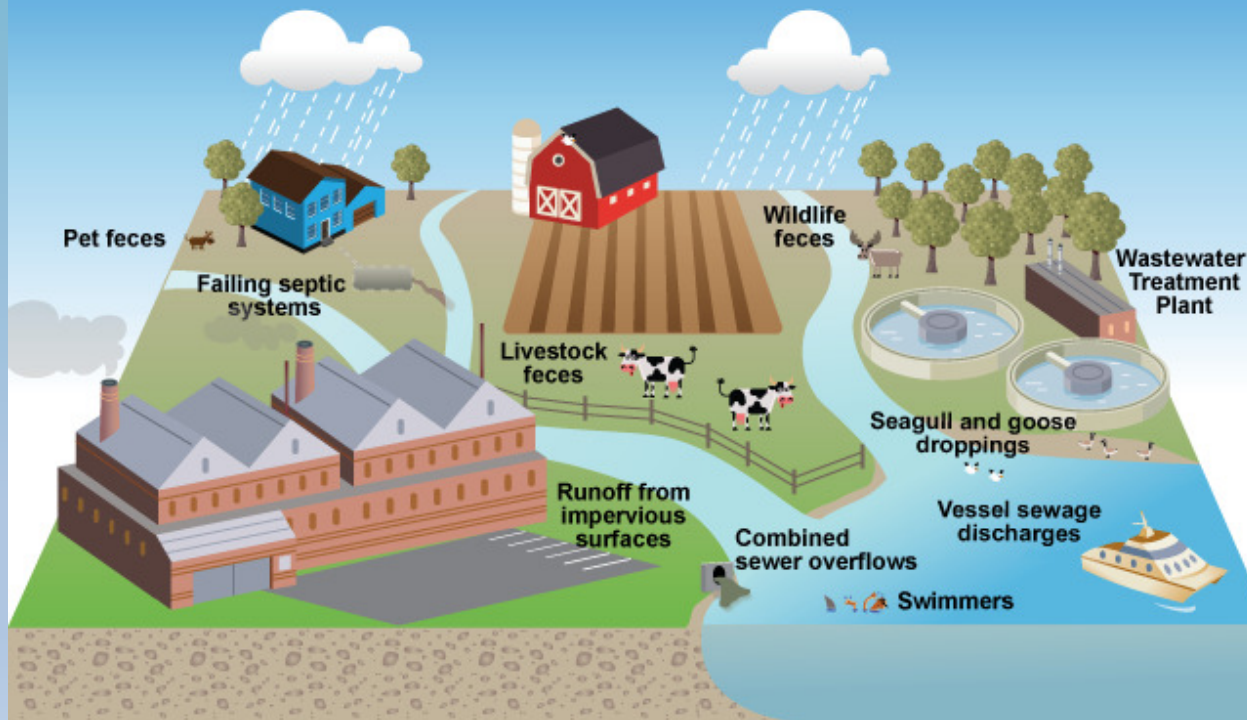
What is in our water?



What is in our water?



Identify Sources of Fecal Contamination



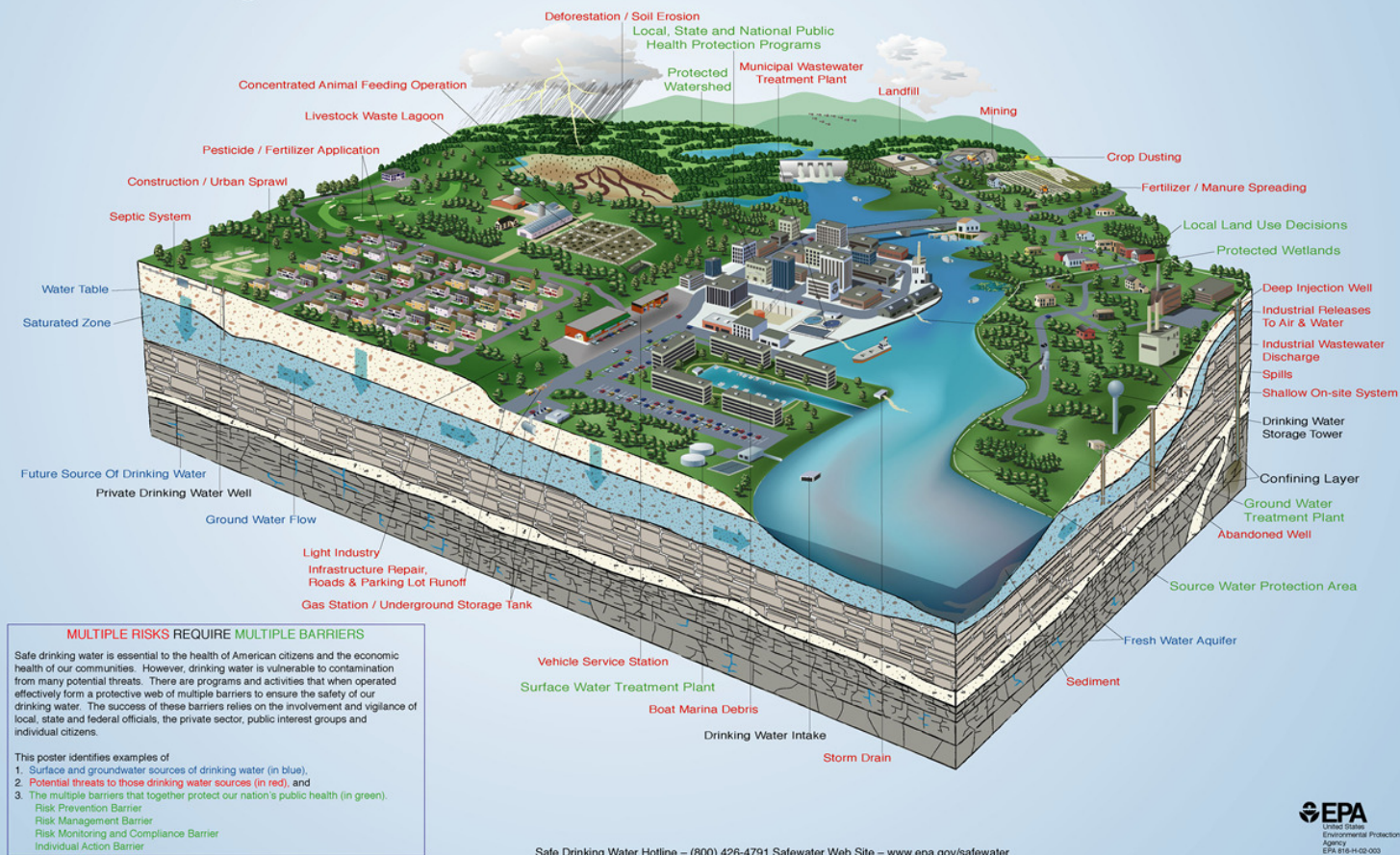
How do we know what is in our water?

- If you have a well, you must test the water to know what is in it.
- The state has a list of approved laboratories.
- If you test your well and find problems, the U.S. Environmental Protection Agency has a Safe [Drinking Water Hotline](tel:8004264791) (800-426-4791) for consumers who have questions about [water quality or water safety issues](#).

If your water comes from a Public Water System

- Your water is protected by the Safe Drinking Water Act.
- Consumer Confidence Reports tell you what contaminants have been detected in your drinking water.
- Your water is filtered and disinfected.

Safe Drinking Water Act - Protecting America's Public Health



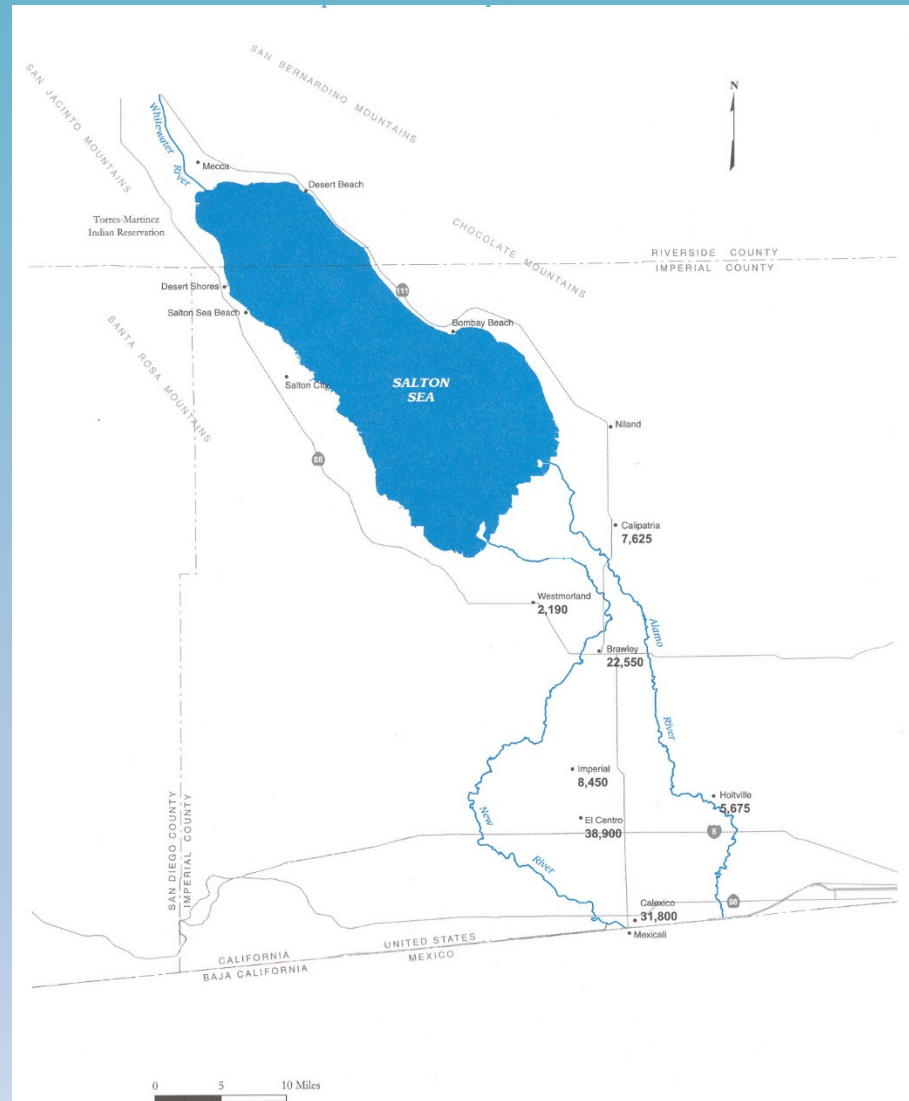
Safe Drinking Water Hotline – (800) 426-4791 Safewater Web Site – www.epa.gov/safewater

When water reaches your home

- Plumbing within your home may contain lead.
- Testing your water at the tap will show if you have a problem with lead in your water, even if it comes from the Community Water System.

Regional water issues: The New River

- The New River flows from Mexico into the U.S. to the Salton Sea.
- It has been called the most polluted river in America.



New River:

- The New River is severely polluted by discharges of wastes from domestic, agricultural and industrial sources in Mexico and the Imperial Valley.
- <https://youtu.be/9zErM7CrySw>



Warning sign on the banks of the New River in Calexico | Photo: [Jason Carter](#)/Flickr/[Creative Commons License](#)

Problems persist after improvements: There is still work to do

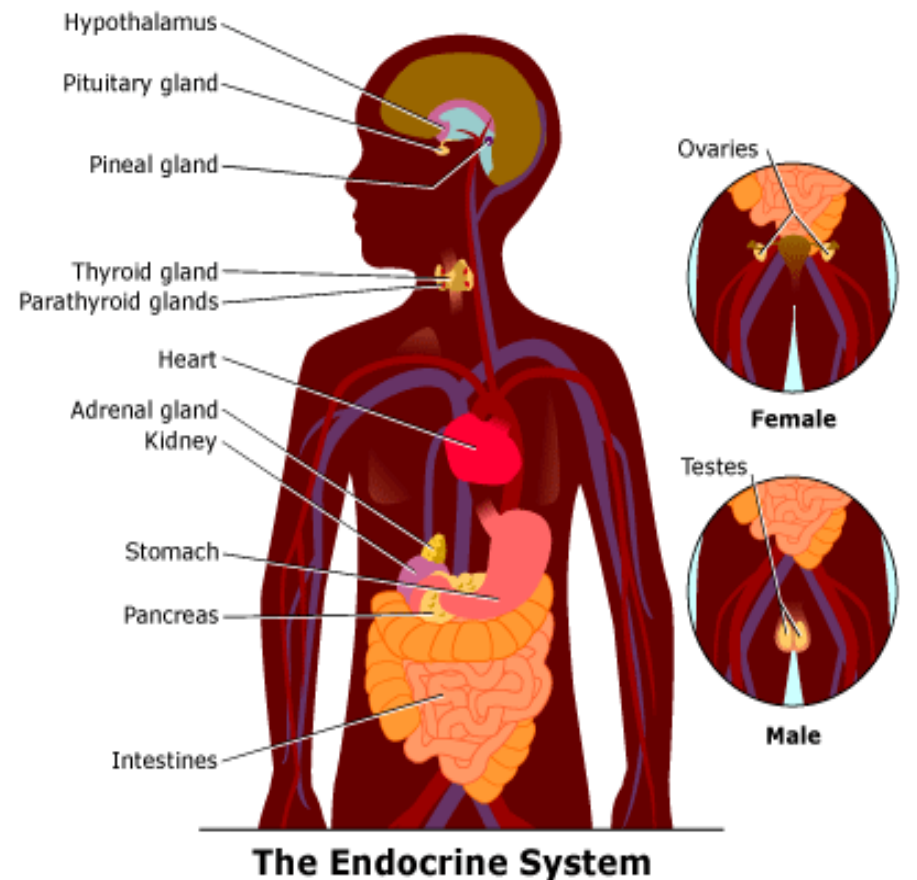
Tests from June 2015 show persistent pollution.

Table 1 - New River Water Quality at the International Boundary
(pre- and post-Binational Projects)

ISSUE	PRE BINATIONAL PROJECTS	POST BINATIONAL PROJECTS
Fecal, E. Coli	> 1,000,000	~ 100 - 60,000
Dissolved Oxygen	< 1.0 mg/L	~ 5.0 mg/L
Nutrients (P04)	40% of Load to Salton Sea	20% of Load to Salton Sea
VOCs	Some detected	Non-detect
Trash	> 150 cu yds/year	> 150 cu yds/year
Pesticides	Detected	Still a problem

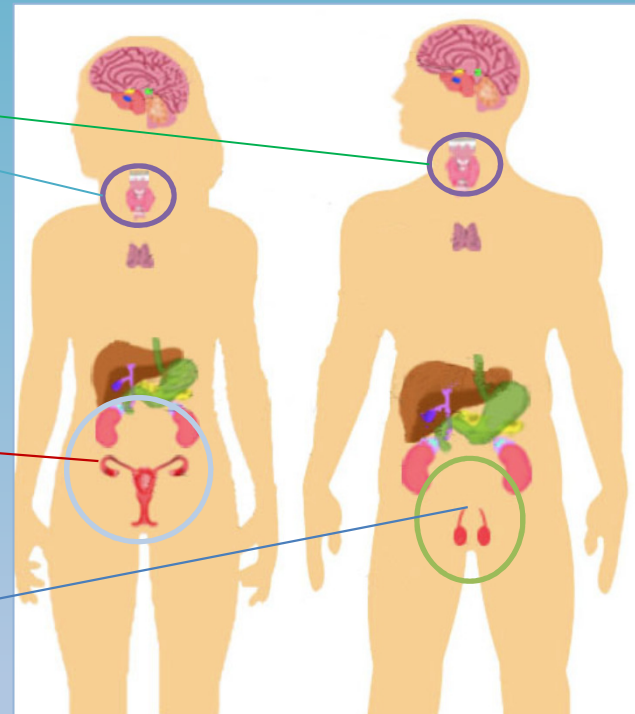
What is an Endocrine Disrupting Chemical (EDC)?

Very small doses of EDC's can harm people in different ways, by tricking the body into responding to chemicals as hormones during key stages of development.



Endocrine Disrupting Effects of Triclosan

- **Thyroid-blocking**
Alters metabolism & transport of thyroid hormone
- **Estrogen-enhancing**
Synergizes estrogen action
- **Testosterone-blocking**
Decreases testosterone & sperm production



What can you do about water quality?

- Become informed about your rights to clean drinking water!
- Test your well.
- Filter your water.
- Buy water.
- Avoid buying water from a vending machine; it is the same as the community water.

Look for a filter certified by the California Department of Public Health : [Registered Water Treatment Devices](#)

Don't flush drugs down the drain!

- Turn unused drugs in to your pharmacy or your local hazardous waste disposal facility.



Drugs in the drinking water

Tests have detected minute concentrations of pharmaceuticals in the drinking water supplies of at least 46 million people in two dozen major American metropolitan areas, an Associated Press investigation has found. The federal government does not regulate prescription drugs in water.

Pharmaceuticals in drinking water

- Tested positive for pharmaceuticals
- Tested negative for pharmaceuticals

- Tested positive for pharmaceuticals
- Tested negative for pharmaceuticals

- Test results pending



^{**} Drinking water in Austin, Texas, was tested for only one prescription drug, a synthetic birth control chemical.

NOTE: All places include some surrounding areas except: Albuquerque, N.M.; Arlington, Texas; Long Beach, Calif.; Los Angeles; New Orleans.

SOURCES: Drinking water providers' responses to Associated Press questions; AP review of scientific literature.

AP

What can we do about water quality?

Contact

- **Community Water Center** provides organizing, education, and advocacy assistance to communities seeking to secure safe, clean, and affordable water in the San Joaquin Valley.

www.communitywatercenter.org

(559) 733-0219

Read the Community Water Center's [CWC Guide to Community Drinking Water Advocacy](#)

- **Clean Water Action / Clean Water Fund** provides advocacy and technical assistance to help secure safe and affordable drinking water.

<http://www.cleanwateraction.org>

<http://www.cleanwaterfund.org>

(415) 369-9160

Formemos Grupos Pequeños

Por favor, tome 20 minutos para discutir cualquiera o todas las siguientes preguntas. Asigne a alguien en su grupo para tomar notas de sus ideas o conclusiones y alguien para presentarlos al grupo general.

1. ¿Qué medidas implementa su comunidad, organización o casa para abordar los problemas de agua?
2. ¿Cómo se puede poner en práctica las ideas discutidas hoy para mejorar su salud y la salud de su familia y la comunidad?
3. ¿Además de lo que se discutió hoy, ¿qué otras acciones están haciendo o se puede hacer para abordar los problemas de agua?
4. ¿Qué otros recursos o información se necesitan para abordar los problemas de agua en su hogar y en la comunidad?

Small Group

Please take 20 minutes to discuss any or all of the following questions below. Assign someone in your group to take notes of your ideas or conclusions and someone to present them to the general group.

1. What measures are your community, organization, or home taking to address water concerns?
2. How can you implement the ideas discussed today to improve your health and the health of your family and community?
3. In addition to what was discussed today, what other actions are you doing or can do to address water concerns?
4. What additional resources or information do you need to address water concerns in your home and community?

Resources

- Community Water Center [Guide to Community Drinking Water Advocacy](#)
- [English](#)
http://d3n8a8pro7vhmx.cloudfront.net/communitywatercenter/pages/56/attachments/original/1394398974/CWC_Community-Guide_Eng_Final.pdf?1394398974
- [Spanish](#)
http://d3n8a8pro7vhmx.cloudfront.net/communitywatercenter/pages/56/attachments/original/1394399024/CWC_Community-Guide_Esp_Final.pdf?1394399024
- Water On Tap: What You Need to Know
 - [El Agua del Grifo - lo que usted debe saber \(PDF\)](#)
http://water.epa.gov/drink/guide/upload/book_waterontap_enespanol_full.pdf
 - [Water On Tap: What You Need To Know \(PDF\)](#)
http://water.epa.gov/drink/guide/upload/book_waterontap_full.pdf

- This presentation was supported by the American College of Medical Toxicology (ACMT) and funded (in part) by the cooperative agreement FAIN: U61TS000238 from the Agency for Toxic Substances and Disease Registry (ATSDR).
- Acknowledgement: The U.S. Environmental Protection Agency (EPA) supports the PEHSU by providing partial funding to ATSDR under Inter-Agency Agreement number DW-75-92301301. Neither EPA nor ATSDR endorse the purchase of any commercial products or services mentioned in PEHSU publications