



INLAND EMPIRE WATERKEEPER

WHO WE ARE

- WE ARE AN ENVIRONMENTAL NONPROFIT THAT WORKS IN SAN BERNARDINO AND RIVERSIDE COUNTY.
- INLAND EMPIRE WATERKEEPER'S VISION IS TO ACHIEVE A SUSTAINABLE WATERSHED FREE OF POLLUTION AND A COMMUNITY OF MOTIVATED WATER STEWARDS TO ENSURE SWIMMABLE, DRINKABLE, FISHABLE WATERS WITHIN THE UPPER SANTA ANA RIVER WATERSHED.
- WE DO THIS WITH FIVE PROGRAM TENETS: ADVOCACY, EDUCATION, RESEARCH, RESTORATION, AND ENFORCEMENT.

ADVOCACY, RESEARCH AND ENFORCEMENT

- WE WORK TOGETHER WITH OTHER PARTNERS AROUND THE INLAND EMPIRE TO ADVOCATE FOR CLEAN WATER IN THE IE
- OUR AREAS OF FOCUS
 - WATER RELATED PERMITS AND POLICY
 - PUBLIC ACCESS TO THE RIVER AND CREEKS
 - STORMWATER MONITORING
 - IF A DISCHARGER IS POLLUTING WE TRY TO WORK WITH THEM TO MAKE CHANGES
 - WE WILL ENFORCE THE PROVISIONS OF THE CLEAN WATER ACT WITH LITIGATION

River K.A.T.S.

Kid Activism Through Science


Empowering Students
to be Heroes in their Watershed



Workshops

- Provided as part of River KATS Program to each class we provide field trips to
- Also provide to other schools and programs that are interested
 - Mary Vagle Nature Center
 - Rialto's Teen Center
 - Upwardbound Program





For 2022- 2023 ...

- Over 600 students served!
 - Worked with 11 schools!
 - Provided resources for more than 20 teachers!
- 

For 2023 - 2024 ...

- Hope to serve over 700 students!
- Created new partnerships with Oak Glen Conservancy and Chino Basin Water Conservation District
- Continue creating new curriculum to engage students

MONTHLY RIVER CLEANUP

EVERY 3RD SATURDAY OF THE MONTH

**DECEMBER 16TH
@MARTHA MCLEAN PARK
9AM-11AM**

**JOIN US ON OUR JOURNEY TO
CLEAN UP THE SANTA ANA
RIVER!**

Crest to Coast

- WE ADVOCATE FOR PROTECTION OF THE SANTA ANA RIVER
- DO MONTHLY CLEANUPS EVERY 3RD SATURDAY OF THE MONTH AT MARTHA MCLEAN- JOIN US ON OUR JOURNEY TO CLEANUP THE SANTA ANA RIVER!
- WE BELIEVE THAT THROUGH OUR EDUCATION AND RESTORATION PROGRAM WE CAN CALL ATTENTION TO THE RIVER

A Watershed



Everyone lives in a watershed!



Watershed: An area of land that drains water, and other materials to one outlet. Where is our outlet? How does water move through cities?

A Watershed is affected by...

Natural Systems

- Climatic Processes
- Geomorphology
- Hydrologic Cycle



A Watershed is affected by...

HUMAN SYSTEMS

- WHERE WE LIVE
- WHERE WE WORK
- WHERE WE PLAY



Your Watershed:
Santa Ana River



- **Begins in the San Bernardino Mountains**
- **Runs through Riverside, parts of LA County, then central Orange County before reaching the Pacific Ocean**
- **Largest in IE**
- **2800 miles total!**
- **Over 5 million people!**
- **Drains in Huntington Beach**

Our 3 endemic fish:



Santa Ana Sucker

Federally threatened



Santa Ana Speckled Dace

State listed species of special concern

Arroyo Chub

State listed species of special concern



HOUSEHOLD
WASTEWATER
(SINKS & TOILETS)

URBAN AND
STORMWATER
RUNOFF

CATCH BASIN

NO SWEEPING
BEHIND THE CURB

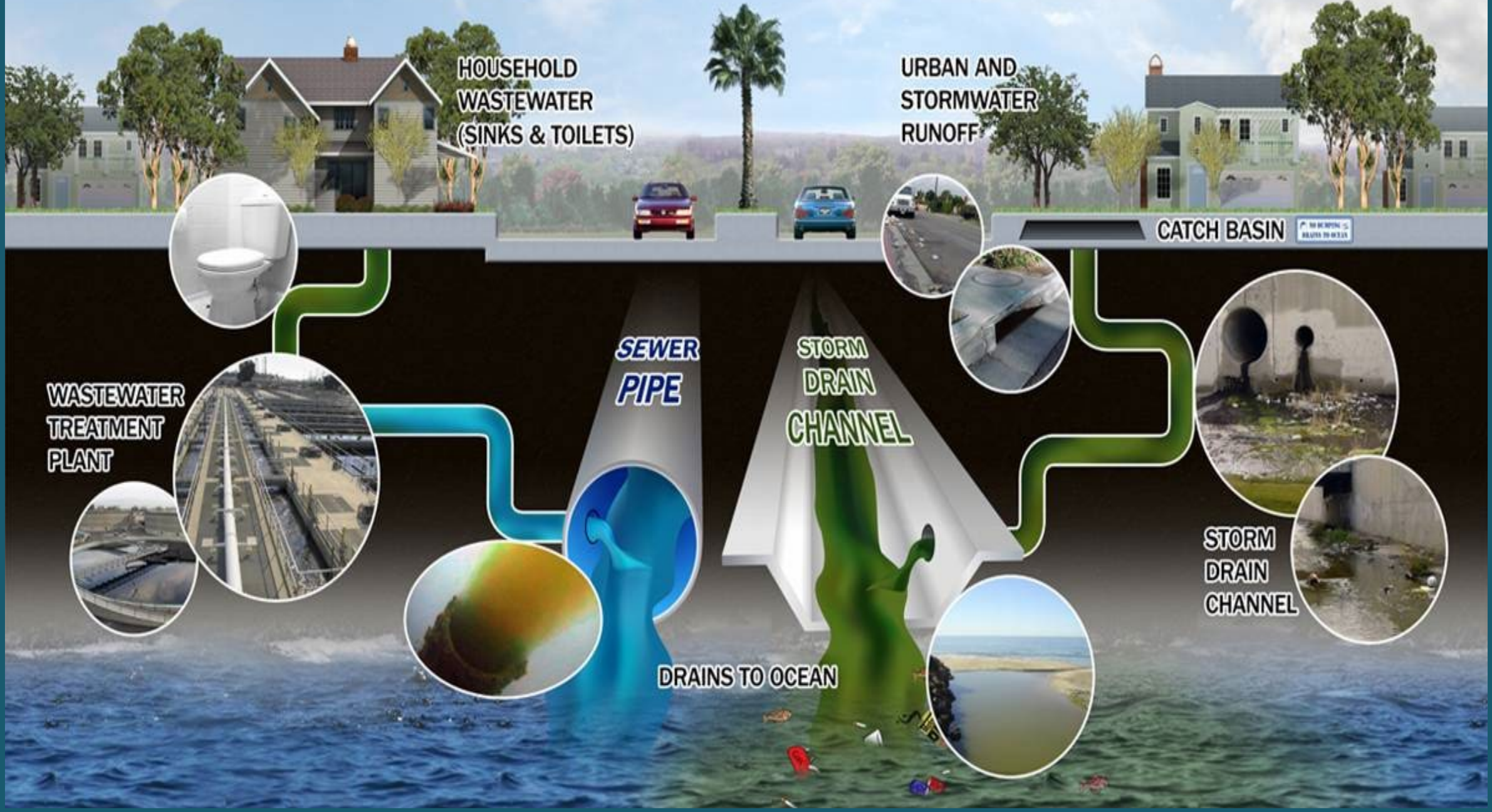
SEWER
PIPE

STORM
DRAIN
CHANNEL

WASTEWATER
TREATMENT
PLANT

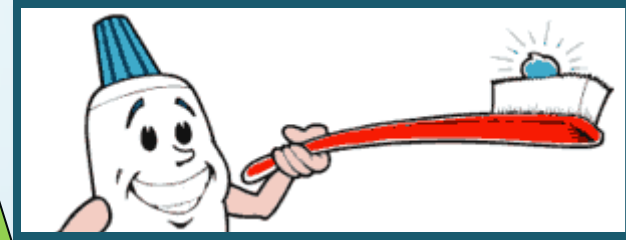
STORM
DRAIN
CHANNEL

DRAINS TO OCEAN



Water used INSIDE your home

When we use water inside our home, it eventually goes...



Sewer System!

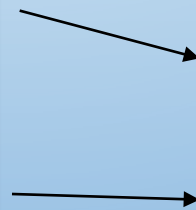


Water used OUTSIDE your home

And when we use water outside of our homes...



Storm Drain System!



Catch Basin

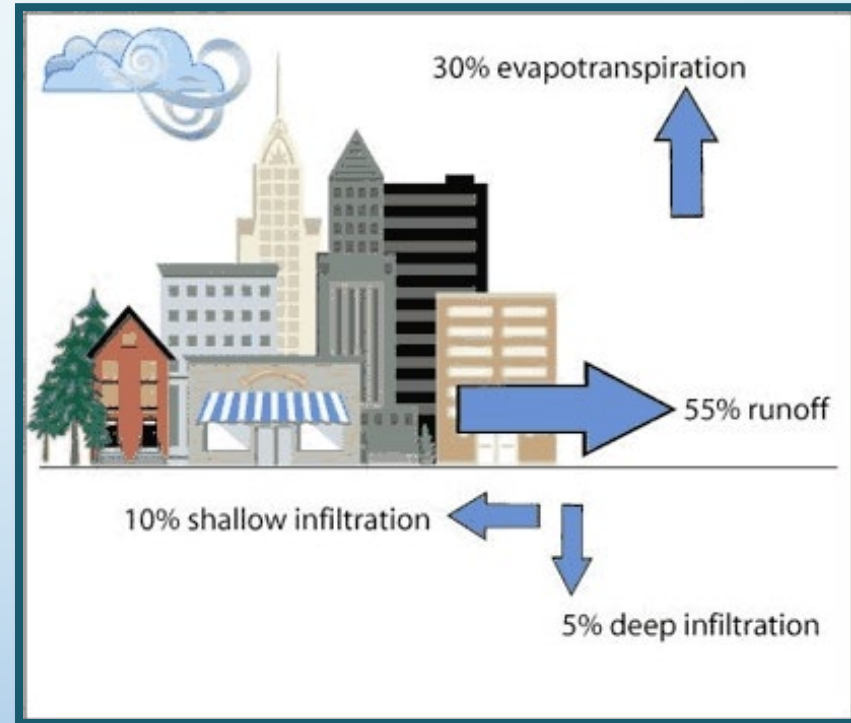
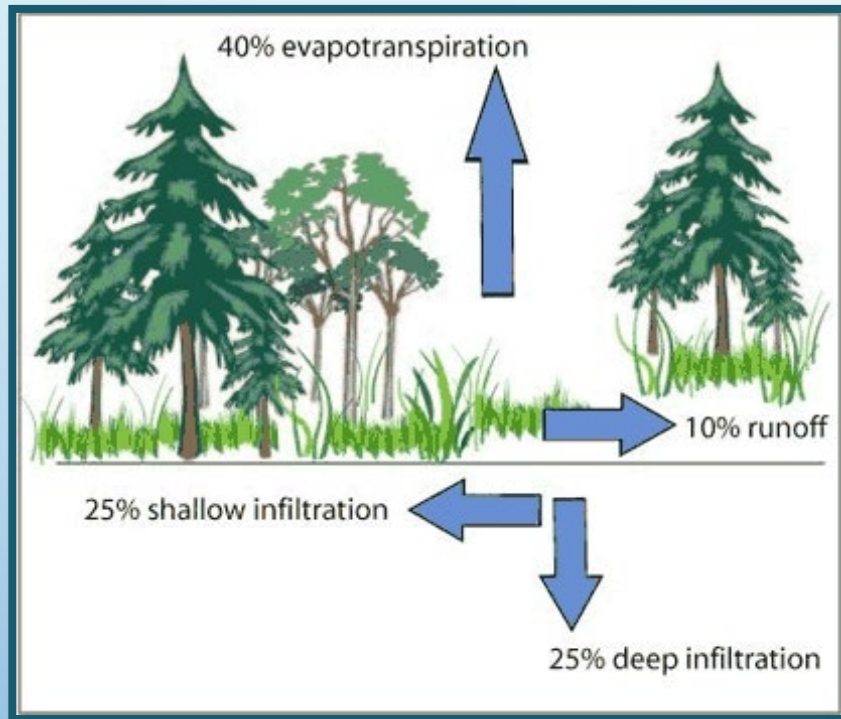


 **NO DUMPING** 
DRAINS TO OCEAN

Outlet



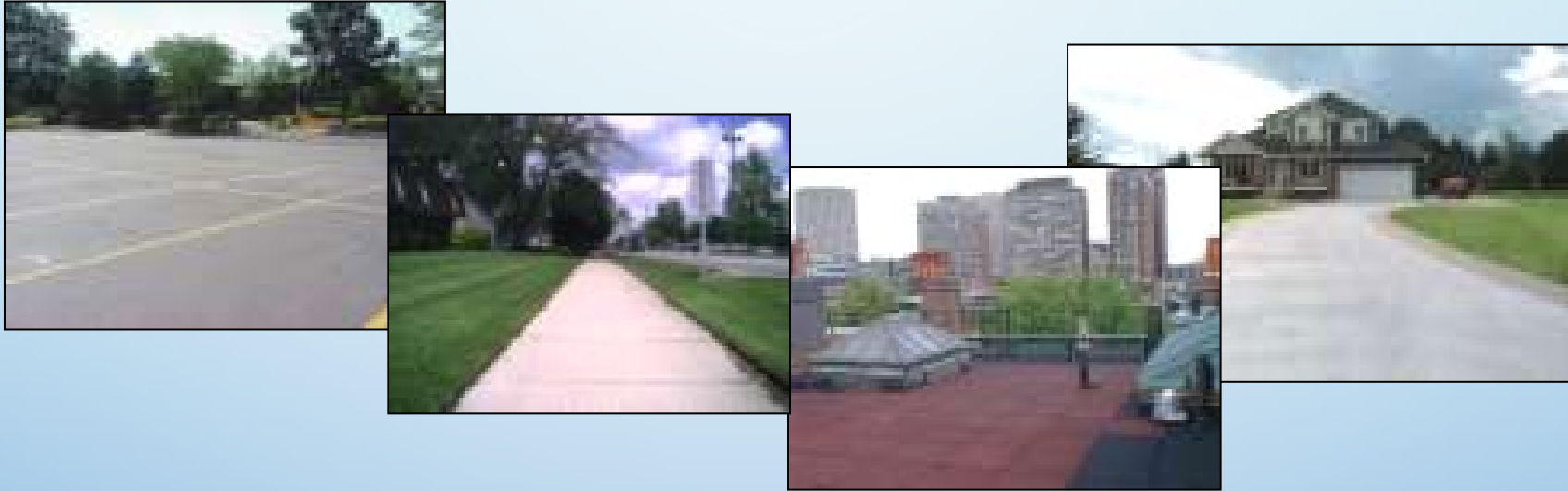
Urban Runoff



- A city block = **9x** more runoff than a natural area of the same size.
- Runoff carries pollutants

THE URBAN WATERSHED: IMPERVIOUS SURFACES

Anthropogenic surfaces - rooftops, sidewalks, roads, and parking lots



Impervious surfaces in urban areas can impact a watershed by:

- A. Preventing rainwater from entering the groundwater system
- B. Allowing pollutants such as tire wear to wash into the ocean during a storm
- C. Increasing the ambient temperature
- D. Reducing the amount of habitat available for plants and animals
- E. Increase the volume and velocity of rain runoff



Urban Runoff Pollution



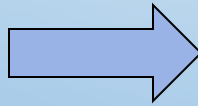
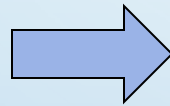
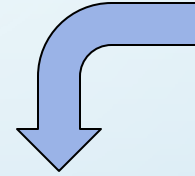
Car Wash



Over Watering



Hosing Down Driveway



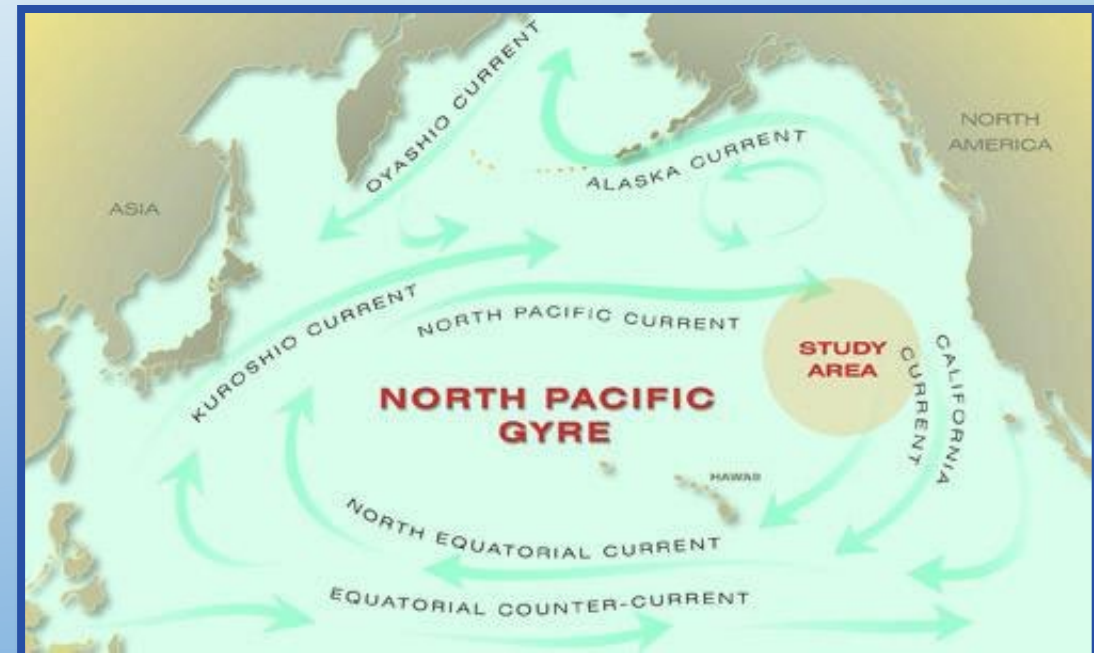
Pollutants of Concern: LITTER

LITTER encourages rats, mice and seagulls which spread germs and disease. Plastic never decomposes completely.

LITTER kills river and ocean animals each year.

Ocean trash vortex twice the size of TEXAS

PICK UP YOUR TRASH AND ALWAYS RECYCLE



Pollutants of Concern: BACTERIA

Animal Waste: During rainfall, pet waste left on lawns, beaches, trails and sidewalks washes into storm drains. Malfunctioning septic tanks.

Decay of animal & human waste requires oxygen that kills fish and plant life.

Major source of bacteria that can make you sick!

ALWAYS PICK UP AFTER YOUR PETS!



Why do we care? - ↑ Nutrients

- Phosphate is a limiting nutrient in freshwater
- Nitrate is a limiting nutrient in freshwater
- Increased growth of aquatic plants → algal blooms
- Decreased DO levels → fish kills



How much is too much?

- Nitrate:
10mg/L

- Phosphate:
0.1 mg/L

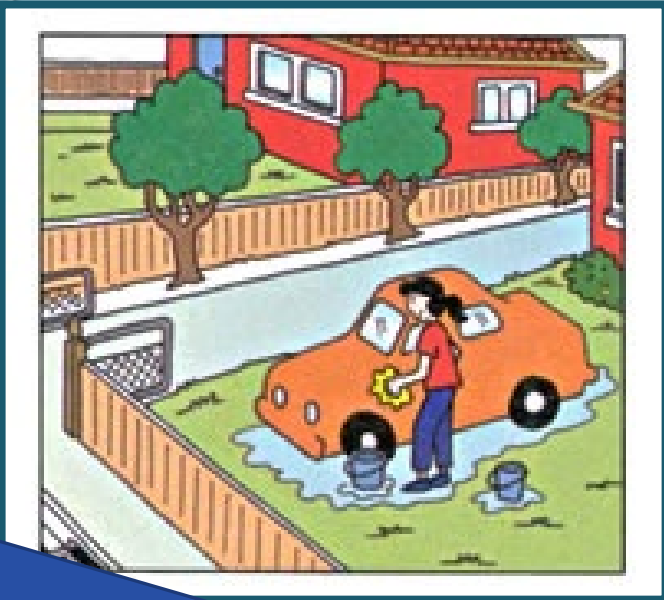
Dissolved Oxygen

A relative measure of the amount of gaseous oxygen, in the form of microscopic bubbles, dissolved in the water.

Unit: mg/L

https://youtu.be/K_sLmKkC6yk

You can do something about urban runoff right now!



At home



In your community



WHAT CAN YOU DO?

- ONLY RAIN IN THE DRAIN!
 - NO DUMPING – DRAINS TO RIVER!
- TAKE EXPIRED MEDICINE TO A PHARMACY
- PICK UP PET WASTE
- DO NOT LITTER AND PLEASE RECYCLE
- ENJOY OUR WATERWAYS AND WILDLIFE AREAS!
- SHARE THE INFORMATION WITH YOUR FAMILY!



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Inland Empire WATERKEEPER
Advocacy • Education • Research • Collaboration • Enforcement

Thank you!

